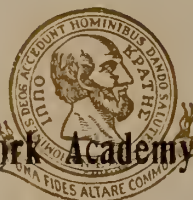


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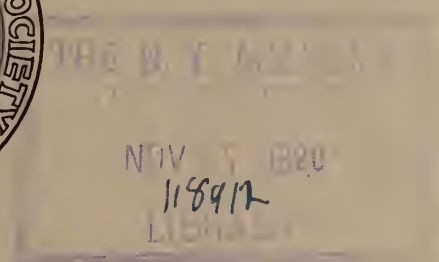
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INDEX TO VOLUME XXXVII

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This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers, are also included. Details of society proceedings, including the names

of papers read, officers elected, etc., can be located in the proceedings under Societies. Editorials, News of the State, Marriages, Deaths, Public Health items are classified under these headings. The subjects of editorials also appear alphabetically and are marked (E).

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THE VALUE OF MILITARY SURGERY IN CIVILIAN PRACTICE.*

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*Mr. President and Members of the Tri-State
District Medical Society:*

It is my first and pleasant duty to express my sincere appreciation of the honor you have conferred on me by your invitation to address you today and to share with you certain lessons learned from experience with the Allied Armies in France.

In the service in the field many lessons were learned. Every theory was tested in the crucible of practical application on a vast scale. We were dealing with hundreds of thousands of patients as we deal with hundreds here. Surgery lived years in days. The combined experience of thousands of surgeons was immediately available for comparison and for study by the individual surgeon; by the surgical staffs of hospitals; by the consultants; by the Red Cross Research Society; by the Interallied Conference; all of which were seeking to discard the false—to find and to hold fast to the true. All questions pertaining to the care of the sick or wounded soldier were thus studied in detail and in the mass by the nations at war; and finally in Paris at a conference of those chosen by their respective governments to make up a consensus of opinion, conclusions from this great mass of evidence were scrupulously drawn.

Perhaps the one fundamental lesson that far and away beyond all others became increasingly emphasized during our service with the armies at the front, in the field dressing stations, in the base hospitals, was the fact that there is

no basic distinction between the war patient and the civilian patient; between the man exhausted by days and weeks of intensive fighting, of tense waiting, of dirt and wet and hunger and thirst, and the starved patient exhausted by the pains and ravages of a devouring disease. In war surgery as in civil surgery the prime problems are the same—shock, hemorrhage, infection.

In this paper, therefore, we shall consider methods of dealing with these conditions which have proved effective in the vast war clinic and shall draw certain analogies between the military and the civilian patient.

INFECTION.

The mere fact that man is surrounded, covered and penetrated by an infinite number of bacteria, and yet lives, is a proof that the human body has within itself adequate defense against bacteria. This defense we may be sure was attained through struggle and survival—that is, through biologic adaptation—and is the bulwark of the treatment of infection.

An interesting proof of this biologic adaptation is the fact that the various parts of the body have varying powers of defense against infection, the most efficient defense in general being possessed by those parts most exposed to infection from injury, such as the external soft parts or those which lie in infected areas, such as the intestines.

On the other hand, the inner protected parts—such as bone, especially deeply placed bone, the deep muscles and specially protected organs and tissues, such as the heart, the brain, the spinal cord and the retroperitoneal tissue—have had less opportunity to make a selective struggle, hence in these parts weaker defenses against infection have been evolved. What does the tissue of the foot possess that is not possessed by the mediastinum, or by the femur? What does the peritoneum possess that is not possessed by the

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dura, what endows the skin and the peritoneum with a better defense against infection? The part whose defense is weakest usually possesses a limited blood supply, as compared with parts whose defense is stronger. There is apparently no other difference as striking nor as marked as the difference in blood supply. We may then infer that a rich blood supply is the key to the defense against infection. The face and scalp, the external parts of the body, the abdomen, have a rich blood supply as compared with the deep lumbar muscles, the bones, the spinal cord, the retroperitoneal tissues. Not only is the normal blood supply less in these poorly defended regions, but the local vaso-motor mechanism is less developed, hence there is less reaction to the invading bacteria. For the most efficient defense there must be not only abundant blood, but normal blood. As Sir Almroth Wright has shown, the blood must not be acidosed, as when blood-pressure is low, for saprophytes flourish in such a medium. The bones, the deep tissue planes, the mediastinum, the spinal cord, the brain, the retroperitoneal space, are all hazardous regions for infection. In the mind of the surgeon the body should be charted like the sea, and he should direct his course according to this chart. One region requires one plan of action, another, such as the scalp or the face, no special plan. Face wounds heal almost equally well with good surgery, with poor surgery, with no surgery. The infected mediastinum heals almost equally badly with no surgery, with poor surgery, with good surgery. A pulseless patient becomes a universal mediastinum. A limb, anemic as from a neglected tourniquet or from the severing of the arterial supply, becomes as helpless as the meninges; the war patient in exhaustion from cold and wet and exposure, from loss of sleep and from fighting, and the starved civilian with cancer of the stomach or with perforating ulcers, alike have a universally weak defense. Patients prostrated by shock or by hemorrhage have low resistance. As a rule, defeated, dejected troops have less resistance than victorious troops. The defense, then, in the normal soldier varies with the several parts of the body, the frontiers of the organism being best defended. The defense, even at the frontiers of the organism, is lowered by interference with the local blood supply, whether of an entire limb, or of the devitalized bloodless

tissue along the injured track of the missile. It is weakened by low blood-pressure from shock, with its secondary acidosis; or by hemorrhage; it is weakened when the entire individual is in exhaustion. The defense, in turn, is augmented by rest, by sleep, by fluids, by the revision of wounds; by restoration of the local and general blood supply. Excision of devitalized tissue, rest, a night's sleep, a transfusion of blood, become valuable "antiseptics" and tend to restore and preserve the natural defense.

SHOCK AND HEMORRHAGE.

I have already referred to the Interallied Surgical Conference as a sort of Supreme Court of Surgery. The conclusion of this conference regarding shock may be summed up in the following brief dictum: *The best treatment of hemorrhage and shock is rest, warmth, fluids, morphin for pain, and blood transfusion.*

The war elicited no new fact in regard to the treatment of shock and hemorrhage but it confirmed civilian experience as to the prime importance of nitrous oxid-oxygen as the anesthetic of choice, and as to the value of nerve blocking as a preventative.

One of the greatest errors in the treatment of shock is to allow a patient to remain in a state of low blood-pressure in the hope that he will improve through his own resources, reserving a blood transfusion to be used as a last resort after it has become obvious that the patient is going to die. This is the same faulty logic that was once used in dealing with appendicitis. When the indication for operation in appendicitis was supposed to be a clammy, pulseless state, when the patient was dying, surgical treatment became almost discredited. It is equally illogical to wait for impending dissolution in shock before improving the circulation. Treatment should not be deferred until the inaugural state of death is established. There is another method of treating shock which is not generally applicable to war conditions, and that is narcotization with morphin—giving morphin on the same scale as in the Alonzo Clark treatment of peritonitis, i. e., keeping the patient under morphin so completely that the respirations are cut down to about 13 to 15 per minute and the patient is deeply asleep. During this time one should give between 2000 and 3000 c. c. normal saline infusion subcutaneously. When properly carried out ex-

cellent results may be obtained by this method which, however, should never be employed if there is cyanosis, never routinely, and always under expert supervision.

THE OPERATION.

The Interallied Surgical Conference adopted as one of its conclusions that in the treatment of wounded soldiers *the anesthetic of choice is nitrous oxid-oxygen combined with local anesthesia*. Among the evidence offered in support of this tenet Surgeon-General Sir Anthony Bowlby presented the work of one of the most brilliant British military surgeons, Captain Douglas C. Taylor, and the work of the Chief of the Anesthetic Service of the British Army, Captain Gregory Marshall. The experience of Captain Taylor I am privileged to quote:

Until the summer of 1917 my colleague, Captain G. Marshall, invariably gave ether for my laparotomies for gunshot wounds of the abdomen. No series of 100 consecutive cases showed a recovery rate of much over 50 per cent.

During the summer and autumn of 1917 I did 101 laparotomies for abdominal wounds, and nearly half of them were given nitrous oxid and oxygen combined with infiltration of the abdominal wall with eucain and novocain. The more serious cases, i. e., those with rapid pulse and low pressure, were nearly all done by this method.

Of this series, 27 died at the Casualty Clearing Station and 74 were evacuated to the Base; of the latter there have been only two deaths, both from secondary hemorrhage—one from the kidney and the other from the rectum and buttock.

That is, by the employment of anociation, Captain Taylor's mortality rate was reduced from approximately 50 per cent. to 29 per cent.

Captain Marshall has demonstrated that patients may apparently do well during ether anesthesia, but do badly afterward, while they do well both during and after nitrous oxid-oxygen anesthesia.

The experience of the various resident and detached members of the Lakeside Unit which collectively dealt with over 83,000 medical and surgical patients is also in accord with the foregoing conclusion. It may be noted that in abdominal operations somewhat better results were obtained when before the beginning of the operation sufficient blood was transfused to permit a safe performance of the operation; and again at the completion of the operation an ample amount of blood up to 750 c. c. was given. Further-

more, if a let-down appeared later, the transfusion could be repeated. Meanwhile the advantages of comfort, rest, warmth, morphin and fluids were added.

The advantages of nerve-blocking are further emphasized by Colonel Cabot's communication to me regarding his series of 180 amputations of the thigh, one-half under ether, one-half under spinal anesthesia with a reduction of mortality by the use of spinal anesthesia of 50 per cent.; while Captain Taylor by the use of nitrous oxid-oxygen and local anesthesia reduced his mortality rate for thigh amputations more than 200 per cent.

It would seem that these conclusions of the Interallied Surgical Conference regarding the technic which would deal most successfully with infection, shock and hemorrhage in exhausted soldiers in whom bullets or shell fragments had ploughed their way through septic material into the hollow viscera should provide even greater protection to the civilian patient in whom avenues into the viscera are opened under the utmost aseptic precautions.

THE GOOD SURGEON.

The surgeons and the pathologists who for four years have intensively studied war wounds, have formulated many theories of treatment—many apparently contradictory theories. Thus there have been presented the claims of the value of various chemical agents against those of no chemical agent; of moist dressings against dry; of heat against cold; of frequent dressings against infrequent, and of no dressings against both; of sunlight and of electric light against occlusion; of immersion against hot air; of bacteriological control against clinical judgment; of vaccines, toxins and foreign proteins against normal reaction; of wound inoculation with harmless organisms against wound sterilization; of isotonic against hypertonic solutions; paste has competed with paste; bip with ip; sap with both; and chromic pastes with all.

Does not this intensive study of infection in war wounds for this comparatively short period equal and recapitulate the more leisurely study of infection during the thirty years since Lister first proposed the carbolic spray? And is there not slowly emerging from the present conflict of opinions the same fact as that which emerged from the post-Listerian period—that the one

agent of successful surgery, whether war surgery or civil surgery, is the *good surgeon*?

In civil surgery here in America, by what agency was mastery achieved over appendicitis, over cholecystitis, over tubal infection, over adenitis? What agent has contributed the most to the success of resection of the intestines and of the stomach; of gastroenterostomy; of treatment of suppurating stone in the kidney; of the treatment of infection of subcutaneous tissue? What agencies have achieved survival? One and but one—the *sound surgeon*, who always creates opportunity. Is it possible that in these four intense years of war surgery, in which more experience in traumatic surgery has been accumulated than during the past 30 years, we have traveled around the same circle as in civil surgery and have again found the same *surgeons*?

By sound surgery we mean the assumption of complete inclusive responsibility for every item that enters into the result; the consideration of the patient as well as the wound; the development of an ability to read the wound as well as the man aright. Sound surgery means quick, innocuous, timely intervention; it means seeing clearly the tomorrow of the wound; it means no intervention unless there is to be a net gain; it means a sharp knife, a good anesthetic, a painless innocuous dressing; it means as much respect for the tissues of the anesthetized man as those of the unanesthetized man; it means a training in judgment that unerringly tells when to cut, how far to cut, when to quit cutting. It plays all the defenses and reparative forces of the patient. Good surgery is the exponent of no single method. It recognizes the anatomical and environmental situations in which chemical and physical agencies are useful. Good surgery exploits physiologic rest and fluids and sleep; it gives little pain. Good surgery evokes confidence; confidence begets restoration. Good surgery, then, makes use of antiseptics and physical forces, just as it uses incisions, counter-drainage, revisions, skin-grafting, blood transfusion. Good surgery does not substitute an easy formula for its principles; above all, it always is dissatisfied with its work and always is open to suggestion.

What could the good surgeon accomplish with the wounds of war, with good opportunity but no antiseptics? Without antiseptics he could close by primary union a higher percentage of

contaminated wounds than with antiseptics; he was able to remove damaged tissue with such accuracy that the natural defenses of the revised wound became its best antiseptic; he closed penetrated knee joints more securely without than with antiseptics; he closed penetrated skulls without, better than with antiseptics; he cleared up foul and infected superficial wounds as well without as with antiseptics; he met gas gangrene with the timely use of the knife as well without as with chemical agents. He closed healthy superficial wounds with early suture tied lightly; healthy wounds that could not be closed by suture be closed by skin grafting, both as a healing and as a bacteriocidal policy; he closed fecal and urinary fistulas without antiseptics.

On the other hand, he realized equally that in compound fractures with or without bone infection, in deep, recessed wounds, in pyocyaneus infection in many other types of wound that antiseptics might have great advantages, and he used them and used them well. In certain phases of a wound, he would use Carrel-Dakin; in another acetic acid; in another, hot pack; in another, incision—a physiologic incision today to avoid the tissue tension of tomorrow; in another, transfusion; in another, sunlight or electric light; in another, continuous alcohol to make a scar covering.

In the rush of a great battle, he incised for drainage, and in addition he made "physiologic incisions" to avoid the tension that is sure to follow the next day from the inevitable infection.

But in quiet times, he dissected out every atom of devitalized tissue. He read accurately not only the wound, but the patient; not only the patient, but the military situation; not only the military situation, but the condition of the infecting soil, the state of transport, his surgical assistance, and the type of nursing care—that is, he weighed accurately his chances for success. Therefore, the army medical service and the wounded man pinned their hope and their faith first, last, and always to the one agency of wound treatment that in civilian surgery emerged clearly from the confusion of the Listerian period; emerged clearly from the confusion of the four years of military surgery—the *sane, sound surgeon*.

SUMMARY.

The experience of this war has demonstrated (1) that spinal anesthesia, nerve blocking, or

local anesthesia, each minimizes or prevents shock; (2) that nitrous oxid-oxygen minimizes and prevents shock to almost the same degree; (3) that when the patient's condition is poor or if the operation is to be extensive and long, it is imperative to use nitrous oxid-oxygen anesthesia with or without local or regional anesthesia. If nitrous oxid-oxygen is not available, then, in amputations of the thigh in particular, low spinal anesthesia according to the method of Cabot is the choice; (4) that when shock has been established the most efficient treatment consists in the employment of rest, sleep, heat, large quantities of fluid, blood transfusion, morphin.

The treatment of infections may be summarized as follows:

1. Before the stage of granulation and new tissue formation, revision of the wound—cutting away all devitalized tissue, removing all foreign bodies, especially clothing, providing free and dependent drainage.

2. Following the above, if the circumstances warrant, immediate or secondary closure as may be indicated.

3. No primary wound closure can be made if the patient is in a state of shock or exhaustion.

4. When the stage of granulation has been reached, free incisions, to relieve tension and to prevent the spread of infection; hot packs; and physiologic rest.

5. In recent wounds and under circumstances in which drainage cannot be established, the Carrel-Dakin method is the method of choice.

6. In wounds near the surface not showing much recessing dichloramin-T does very well.

7. When it is necessary to keep the wound free from the increased infection that might occur as a result of the transportation of a wounded man whose wound had been thoroughly revised from the Front to the Base Hospital, then 1 to 1000 sol. of flavine would be the method of choice; the second choice is dry gauze and no antiseptic.

8. Infections are treated by raising the local blood supply and local resistance as well as by raising the general resistance of the patient. The importance of the latter is frequently forgotten.

The increased resistance of the patient to the chronic forms of infection is accomplished by adopting as far as possible the dietetic and hy-

gienic treatment for tuberculosis, and by giving transfusions of blood at intervals. The transfusion of blood is the most potent method of increasing the circulation, improving the blood and raising the resistance. The Harvard Unit under Colonel Cabot used this method extensively.

Infected wounds often times show a marked improvement immediately following a transfusion of blood. As a therapeutic agent transfusion may be repeated a number of times.

The results secured by application of these principles may in turn be briefly summarized as follows:

The Head—It has been surprising in this war to find how well the brain resists infections in strong, able-bodied soldiers. In these cases the wounds do best on the whole by being thoroughly revised, thoroughly cleansed and closed immediately, even though there may be some bacteria in the wound.

Wounds involving the mouth do very well under treatment with dichloramin-T sprayed through an atomizer.

Contaminated wounds involving the trachea and the deeper planes of the neck are best treated by laying them wide open and packing with iodoform gauze.

The Chest—The most serious wounds of the chest are the "sucking wounds." The chest wound should be closed tightly and even when operating for empyema following a penetrating wound of the chest, the wound should be closed even though but temporarily so as to obviate any danger from the air.

The Carrel-Dakin method is excellent in the treatment of infections within the thorax.

If there is cyanosis, and this is very common, then the inhalation of oxygen under pressure supplied by a gas oxygen apparatus for a period of from five to eight minutes immensely improves the internal respiration and raises the vitality of the patient in advance of the operation.

The work of Gask and Robinson for the British Army and of Yates for the American army has shown very conclusively that the chest may be safely opened and portions of the lung resected with good results.

Yates has shown conclusively the advantages of positive pressure applied by the gas-oxygen apparatus. He has also demonstrated the fact that

the chances for recovery are increased if the lung is put to rest by nerve blocking.

Wounds involving the chest and the abdomen usually show high mortality. Many examples of herniation of the intestines into the thorax were found. The diaphragm is more easily accessible through the chest, as a rule, than through the abdomen. Operations above the diaphragm were well borne. Operations upon the heart were not common, but some successful cases were noted.

The Abdomen—Penetrating wounds of the abdomen should receive early and prompt attention by an experienced surgeon. The best results thus far reported are those of Captain Taylor which we have already quoted.

Where indications of peritonitis are present, put the patient in the Fowler position and employ hot packs and large doses of morphin, practically utilizing the Alonzo Clark method, and administer from 2,000 to 4,000 c. c. of water subcutaneously every 24 hours.

The high resistance of the peritoneum in wounded soldiers was a constant surprise. As a rule after penetrating wounds of the abdomen the more common complications were pneumonia, bronchopneumonia, and retroperitoneal infections, rather than peritonitis. In military surgery, as in civilian surgery of the abdomen, the best results follow ample incisions. It makes very little difference whether incisions are transverse or vertical. The mortality rate of operations on the large intestine was higher than that of the stomach or the small intestines. Penetrating wounds of the liver are best left untreated; wounds of the spleen are best treated by splenectomy; of the kidney, if extensive, by nephrectomy. Penetrating wounds of the bladder are best treated by a free exposure and immediate suture.

The Extremities—The Knee Joint. It was a matter of great surprise to find how well the knee joint resisted contamination. This, it must be confessed, was in all probability due to the high grade resistance of the patient, rather than to any new form of treatment. It was found that antiseptics not only did no good, but were harmful when applied within the knee joint. Aseptic operation—cleaning out the knee-joint, getting rid of all foreign bodies and devitalized tissue, followed by complete closure of the joint—gave the best results.

Penetrating wounds of the joints when the

bone was not shattered, at least not extensively shattered, did best without operation.

Pyogenic infection of the knee joint other than from hemolytic streptococcus, in the early stages very often was cleared up by being thoroughly washed out and then closed again.

Streptococcus infection of the joint demanded amputation as a rule.

But infection of the joint coupled with compound fracture of the tibia or the condyles of the femur usually demanded immediate amputation. Many lives were lost by ultra-conservatism in this direction. The treatment of compound fractures and of fractures generally, made perhaps greater advance than any other field of surgery in the war, largely as a result of the use of the Thomas and the Hodgins splints and the abolition of coaptation splints and compressing bandages, but most of all these advances were due to massive experience, although our own army was not in the fight long enough to give our surgeons an opportunity to be compared with that of the British and French surgeons.

One of the finest achievements that came to my attention during the war was the treatment of fractures of the femur in No. 8 Red Cross Hospital, B. E. F. where 1,700 cases of compound fracture of the femur were discharged with an average shortening of but a fraction of a centimeter. In most cases even the anterior bowing of the femur was restored. In this hospital out of the total number of fractured femurs, only nine per cent. were amputated and the mortality rate was below eight per cent. These cases were all infected, arriving at the hospital on the average of about one day after injury. These results were obtained by no dogmatic rules, but by good surgery, horse sense and strict attention to the patients. They used no antiseptics except an occasional Carrel. They gave over 200 transfusions of blood for hemorrhage or shock or anemia. Gas and oxygen was the anesthetic. They placed great stress on hygiene, dietetics and the comfort and well being of the individual.

The treatment by Wilms of acutely suppurating joints by free opening, attaching the capsule to the skin, inaugurating at once and continuing day and night active or passive movements, even walking, had unexpected merit. So far as the author can see the benefits of this radical de-

parture were due to the evacuation of the pus preventing pooling and pocketing.

The great war found the medical department of the army better prepared than any other. This was due to the foresight of Surgeon-General Gorgas and the generous co-operation of the American Red Cross in organizing and equipping 50 base hospitals as a matter of preparedness. The medical service was the first to actively enter the war.

In turn, perhaps, the most valuable lessons of the war are being taken back to civilian life by the medical department. Much has been learned as to sanitation; as to acute wound infections; as to anesthetics; as to surgery of the chest and abdomen; as to the treatment of fractures; as to nerve suturing; as to plastic surgery; as to the relation between the organism of man and the destructive forces that surround him. Moreover, the war has taught us a better spirit of co-operation and a higher sense of duty to our country.

ARTIFICIAL PNEUMO-THORAX.

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Argument. Anything which will produce results in a disease as fatal as pulmonary tuberculosis, will always be welcomed by those who have to grapple with the problem of treatment; anything which will offer a stay of proceedings, so to speak, will always be grasped by those unfortunates, afflicted with a malady which so often puts a time limit on life.

The induction of artificial pneumo-thorax has been attended with such brilliant results that it holds a high position in the therapeutics of pulmonary phthisis; reduction of fever, cessation of cough, diminution of expectoration, improved appetite with attendant gain in weight are some of the achievements of this operation.

History. First resorted to by Forlanini, of Padua, in 1882, it did not make its way in the medical world until 1898, when John B. Murphy, independently of Forlanini, demonstrated its value in Chicago. Murphy, however, did not push the treatment enough to give it a vogue, and it almost fell into disuse. Following these two pioneers came Ludolph Brauer in 1907. Brauer's work, which received much publicity, brought the treatment of pulmonary tuberculosis, by collapse

of the lung, into deserved recognition. The German clinics took it up, scarcely mentioning Murphy's work, while condemning the technic of Forlanini. Nevertheless, once recognized as sound therapeutics, lung collapse rapidly gained friends until it is now widely accepted as a proper treatment in proper cases.

Definition. Artificial pneumo-thorax is a condition produced by the introduction of an innocuous gas into the pleural cavity as a therapeutic measure, and characterized by partial or complete collapse of the lung.

Indications. Artificial pneumo-thorax, as a means of treatment of pulmonary tuberculosis, is indicated in the presence of hemorrhage, cavity, extensive disease of one lung, persistent temperature, failure to improve after treatment by other means. It has also been used to some extent in the treatment of abscess of the lung.

Gradual failure of a case with rising Arneth count, may also be taken as an indication for lung collapse. (Note: actual destruction of lung tissue should not be regarded as a *sine qua non* in deciding on indications.)

Pneumo-thorax may be justifiably advised when the patient, after having made a fairly good recovery in a sanatorium, is to return to unsatisfactory environment and is not likely to continue his discipline.

Hemorrhage. This is, in itself, a strong indication for the production of a pneumo-thorax, regardless of existing disease in the other lung, unless such disease be so advanced that the lung will not carry on the work of respiration after the collapse of the bleeding lung.

High temperature, indicating as it does, activity, may be regarded as a strong indication for lung collapse if the disease be confined to one lung. A rising Arneth count often offers an indication for the operation, when present in connection with other factors. Even when physical signs fail to show any increase in disease area or in intensity, the rising Arneth points to loss of ground.

Contra-indications: These are: bilateral disease so extensive as to preclude the probability that sufficient functioning lung tissue remains in the "good" lung to sustain life; advanced heart disease; serious disease of any other vital organ, old pneumoconiosis.

Even where sufficient lung tissue remains in the "good" lung to carry on respiration, there

may be so much necrosis and deposit in it that the extra work thrown upon it after collapse of the opposite lung tends to hasten the process of destruction. In this case, therefore, it is the great extent of the bilateral disease—not bilateral disease *per se*, which constitutes the contra-indication.

Inasmuch as severe tuberculous involvement of the larynx spells an early and fatal close to the patient's career, lung collapse should not be practiced where this complication obtains.

Pregnancy is *not* a contra-indication.

lung brings about the blocking of the lymphatic and circulatory systems with consequent diminution of absorption of toxins. This, not infrequently, has resulted in great improvement and prolongation of life.

It has been suggested by Emil Beck that the improvement which follows artificial pneumothorax under bilateral conditions, might be explained thus: the total disease resistance, expressed in units, is less than the total amount of disease (when present in different parts of the body). If, therefore, in bilateral cases the worse

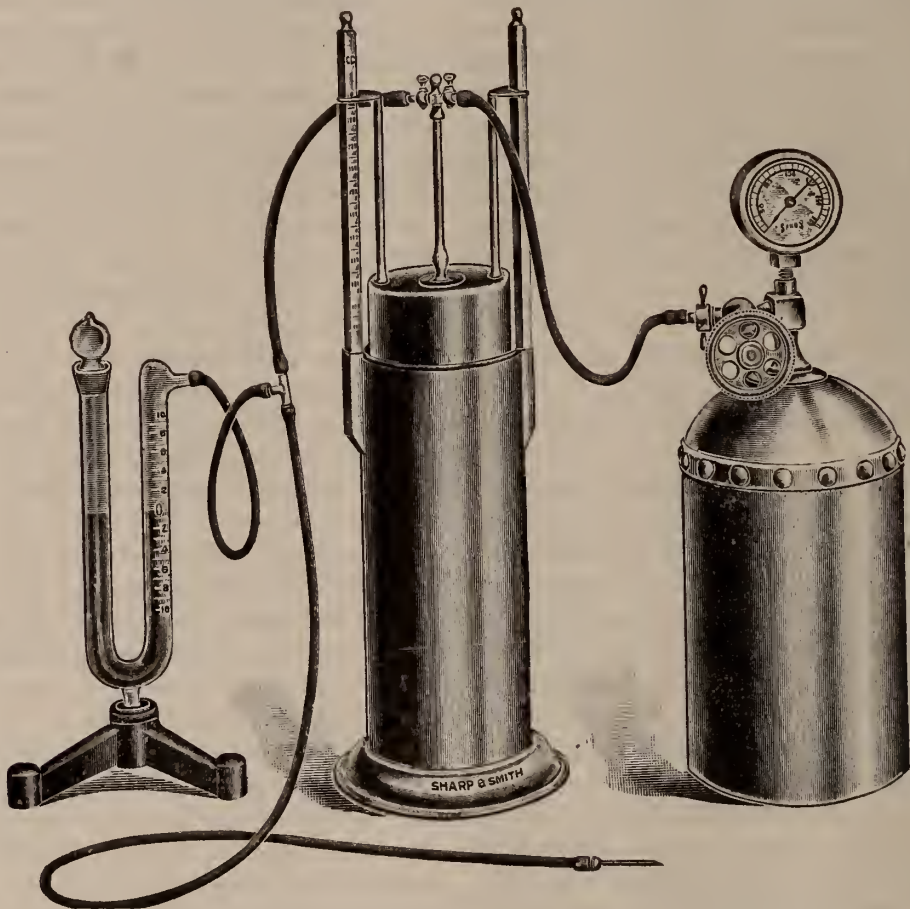


Fig. 1. Original Murphy Pneumothorax Apparatus—Gray's Modification

Patients who have developed a broncho-pneumonia, as after hemorrhage, do not do well after collapse of the lung.

Bilateral disease, in itself, as above indicated, does not constitute a contra-indication for the induction of artificial pneumo-thorax. Often enough, where both lungs have been extensively involved, closing of the worse one has resulted in marked improvement in the uncollapsed lung. It should be remembered that collapse of a diseased

lung be collapsed, the amount of disease (expressed in units) in the remaining lung, may be found to be less than the total of the individual's resistance. Beck instances cases where surgical elimination of one focus (as a knee joint) is fol-

Pre-requisites: There must be a free pleural space; there must be present, in the good lung, enough sound functioning lung tissue to sustain life. According to Ludolph Brauer and the school led by him, the pulmonary disease must

be strictly unilateral—at least this was his stand prior to 1914, no reports from him having reached this country since that time. Incidentally, it may be stated that these same authorities held that lung collapse might properly be resorted to, only after all other methods of treatment had been tried.

Our experience, gained by the study and treatment of over 400 cases at the Chicago Fresh Air Hospital, indicates that patients who present themselves for lung collapse after having tried various means of treatment over a more or less lengthy period of time, are seldom possible or proper cases for the method of treatment under discussion. This means that the longer one waits the further the disease will have progressed; the more likely will be the occurrence of adhesions with less likelihood of a successful operation; also is it the more likely that the disease will have attacked the other lung, making a successful outcome less probable. Therefore, the earlier one does a pneumo-thorax, the better the chances of permanent cure—this is best shown in those cases where an initial hemorrhage, coming early in the course of the disease, is the indication on which the collapse is done.

Apparatus: This consists of a gas container, holding nitrogen gas under pressure, gasometer, manometer, tubing and needle. This last, the writer finds, should be small (18 gauge), with the sharp, beveled point of the new aspirating needle, filed off to an angle of 45 degrees. For re-insufflations, a sharper needle may be used. Nitrogen gas is usually used, although some operators use atmospheric air. Until recently, the author has always used nitrogen; it occurred to him to use air with a view to reducing the frequency of pleural effusions which appear in many cases after pneumo-thorax has been maintained for a variable period. The results after the use of air seem to show that there is actually a diminution of the effusions; this advantage may be considered offset by the necessity for more frequent insufflation, the oxygen of the injected air being, as is well known, more rapidly absorbed than nitrogen.

The apparatus above mentioned gives entire satisfaction. It represents the original Murphy apparatus plus a manometer added by the writer. The pressure under which gas may be introduced into the pleural cavity with it is not over 16 cm. water pressure.

The needle best adapted to the induction of artificial pneumo-thorax is the blunted aspirating needle. The size is commonly designated as "18 gauge," which means that 18 needles, laid side by side, will measure an inch, this is the ordinary aspirating needle of the surgical supply houses. There are various elements of value in this needle.

1st. The needle is so small that it will not



Fig. 2. Tenotomy Knife—Used for Nicking Skin

seriously injure the lung in the event that the visceral pleura is punctured; it is large enough, however, to permit of a free flow of gas.

2nd. The blunted point only infrequently enters the unadherent lung. It may, of course, enter a caseous nodule and it will also enter the adherent lung under sufficient pressure. But it does not penetrate the normal pleura unless unnecessary violence is employed.

Other and larger needles have been offered for this operation, but in the writer's opinion, they are too large; they, therefore, produce a larger trauma and are distinctly more dangerous. Further, these needles are introduced with a stilet in situ and are in connection with the manometer only after the proper depth is thought to have been reached. The blunt 18 gauge, end opening, needle is introduced without stilet, is always in connection with the manometer, thus giving an instantaneous record, once the pleural sinus is reached. It is also light and, therefore, easily handled.

Judging from the statements of patients who have been treated by colleagues who use the larger needles, the smaller needles are much less painful than the others, that, too, without local anesthetic.

The gasometer consists of two metal cylinders, one, the outer, of two liters capacity, the other, small enough to fit inside the first, of one and one-half liters. The outer cylinder is open at the top and fitted with two side guides, one of which is marked in centimeters. The inside cylinder, open at the bottom, is the real gas container; it is supplied with a metal tube which rises from its top to the height of the outside cylinder.

In action, the smaller cylinder is placed inside the larger one and warm water poured into the

latter until the top of the smaller is just awash. If now, one is using nitrogen, it is turned on from the compression tank until the gas container rises to the zero mark on the side guide. When the gas is administered the container sinks slowly, losing its equilibrium when the indicator reaches the 600 mark. This happens because the 400 c.c. nitrogen remaining in the gasometer is not sufficient to support the weight of the inner cylinder.

Tubing: this should be of flexible rubber of calibre to fit the nipple of the gas container and the butt of the needle, i. e., about $\frac{1}{4}$ -inch in diameter. A straight line of tubing is run from the gas container to the needle, using about $3\frac{1}{2}$ to 4 feet of tube. At a point about 16 inches from the gas container, a glass "T" is let into the line and is connected with the nipple of the manometer by a tube 12 inches long. A tube 18 inches long connects the gas container with the compression tank.

In order to prevent the passage of possible dust, a loose wad of cotton is placed in the "T," although the chance of such a happening is very remote; nevertheless, we have sometimes discovered fine bits of dust on the cotton. The tubing should be boiled each time before using.

The *manometer* was characterized by Murphy as "an instrument of precision" and is recognized by all workers in this field as an essential of the highest importance. To attempt to introduce gas into the pleural cavity without it is to court disaster; it is groping in the dark. True, the exponents of artificial pneumo-thorax did not use the instrument in earlier years; neither did the method gain much renown at their hands, little notice and no popularity.

It is one thing to plunge a hollow needle into the chest cavity, another thing to know how deeply it has penetrated; whether it has found that plane of negative pressure, the pleural sinus, or whether it has gone on into the lung. It is also desirable to know when gas enough has been given, irrespective of the patient's statement as to fullness or distress.

These points are covered by the manometer. The instrument is a tube, 2 c.m. in diameter, curved upon itself, and is 25 c.m. high. It is open at the end of one branch, the other branch being closed down to a nipple the size of the butt of the needle. The proximal or nipped branch of the instrument is calibrated in cubic centimeters, from zero, down and up. Filled with colored

fluid to the zero mark and connected as above noted, the manometer is ready for use; it is so delicate that the pressure of the fingers on the tube will register in the indicating fluid. The armamentarium will be complete with the addition of a small knife which is used to make the preliminary nick in the skin; this may be a small narrow bistoury or tenotomy knife.

Selection of site. Before proceeding to operation it will be wise to have had the patient under observation for at least thirty days; this does not apply to cases of hemorrhage, which require emergency attention. In any event, a careful study of the case is imperative. There is often doubt in the mind of the physician seeing the case for the first time, whether the proposed collapse is indicated or justified. As above stated, prolonged study of the case will bring out many points which at first may be overlooked; again, by reason of an acute process, both lungs may appear to be extensively involved, or equally far advanced. Bed rest for thirty days will do much towards clearing the situation, revealing, perhaps, that the pathology is largely limited to one lung and that the operation is indicated. In other cases, at the end of this term, the general condition will have become more grave, and the lung findings show that the operation cannot be done with justice.

To determine the proper location of the proposed puncture, it is necessary to make a careful survey of the chest by inspection, palpation, percussion, auscultation and x-ray.

Inspection: Here should be considered Litten's sign, intercostal retraction, position of the heart, general movements of the chest, limited generally or unilaterally. To be noted also, are the color of the lips, skin, etc., cyanosis and dyspnea.

Litten's sign — diaphragmatic phenomenon — has been held to be of doubtful value in the selection of the site for puncture. More than likely, intercostal retraction occurring during inspiration and caused by extensive pleural adhesions, have been mistaken for a true Litten. It must be evident that, where a Litten is seen, a free pleura will be found. Where a free pleura exists, gas can be introduced.

The position of the heart is of great value in the primary orientation; the dislocation of the apex beat to one side or the other indicates the side on which the older lesion and more extensive adhesions will be found. Dislocation of the

beat to the left mid-axillary line, or well to the right, often means that the heart partly fills a large cavity of long standing; this being the case, extensive cicatrization must have already occurred. Under these conditions it is almost a foregone conclusion that the pleural sinus has long since been obliterated. Percussion and auscultation usually confirm this assumption. Few cases presenting cyanosis and dyspnea should receive pneumo-thorax treatment; nevertheless, some such cases, exhibiting much cyanosis, have done well after lung collapse. The explanation lies in the fact that the collapsed lung has been extensively cavitated and admits more air than the "good" lung, but fails to ærate it. Collapse of this cavernous lung results in more air being drawn into the "good" lung with consequent dissipation of the cyanosis.

Percussion: One should try to find a normal or nearly normal note, in the mid-axillary line. In fact, a normal note is more likely to be found between the mid-axillary and interior axillary lines than elsewhere. Least likely in the back. To be avoided are notes of tympany due to cavity or nearness to the stomach. A free pleura is not likely to be present where one finds the dullness of a thickened pleura, while a puncture over evident consolidation more often than not fails. Hyper-resonance is not a good indication, pointing to cavity and adhesions, rather than to a free pleura.

Auscultation: To be avoided are areas where are heard cavernous respiration, and rales which seem to be close to the stethoscope; these usually mean adhesions. Absence of respiratory murmur has come to mean, with us, absence of a free sinus. One should try to find an area where rales are fewest and where there is at least some approach to normal breathing, even though the area be very small and patchy. A friction rub means a free pleura.

Roentgen Picture: This may or may not give one information of value in the selection of a site for puncture. Understanding that the rays penetrate a thickened pleura with ease, one should not accept a clear plate without carefully comparing it with the results of physical diagnosis; a free sinus will most likely be found where the picture shows the lung to be normal, or nearly so. Consolidation and cavity, as above noted, usually make for pleurisy, pleurisy for adhesions—hence, these areas, shown on the plate, must be stud-

iously avoided. It is in determining whether a pneumo-thorax is justifiable in the presence of a bi-lateral tuberculosis that the x-ray is of great importance. Here, study of the plate will probably show whether the extent of disease in the "good" lung is sufficiently great to prohibit the operation. One can work with one lung, live comfortably with two thirds, and exist on one-third of a lung.

Operation: Forlanini's original operation consisted merely in puncturing the skin and tissues with a small trocar. Without a manometer, this was an uncertain proceeding beset with difficulties. Brauer sought to simplify, or, better, to elaborate the operation by cutting down to the pleura and passing the trocar only if he found a free pleura. This would seem to be the acme of caution, for one can see through the pleura and observe the moving lung underneath. Brauer then passes the trocar through the pleura, allows a small amount of gas to flow into the sinus, withdraws the trocar and stitches up the wound. An unfortunate sequence, often enough mentioned in the reports of the Brauer school, is fistula; this complicates the operation and, of course, retards recovery. Later injections of gas are made by direct puncture, as in the Forlanini method. In view of results by Forlanini's and Murphy's methods, the operation just described cannot but seem clumsy and unnecessarily complicated. It certainly has a wealth of detail.

Another thing, an operation which is to be done without a general anesthetic, would best be made as short as possible. By the method here below described, the patient, without any anesthetic, bears the operation cheerfully and returns for his refills without dread. This is an asset of value.

After the patient has been examined, sitting, if possible, he should be again examined, lying upon the table. A hard roll or cushion should be placed under the thorax so that the intercostal spaces will be separated; the site of puncture is thus raised while the head lies, without support, on the table.

[Note: It would seem that this position might lessen the chance of gas embolism, to be described later.]

The point of puncture having been determined, the skin is painted with tincture of iodine. Now, a small incision, or, rather, a nick, is made in the skin; this need not be much longer than the diameter of the needle to be used. Rarely is

there bleeding from this slight wound, but, when present, one must wait until it has ceased. The needle, connected with the tubing, and, therefore, with the manometer, is now carefully passed into the wound and slowly thrust through the fascia, muscle, and parietal pleura. The needle often passes with a slight sound, felt rather than heard by the operator, whose gaze should be fixed on the manometer. The operation, thus far, has been attended with slight pain, so slight, in fact, that no local anesthetic is needed. After passing the needle through the parietal pleura, one must be careful about thrusting it further. It is not always possible, however, to judge with such accuracy as to avoid pressing against or even puncturing the visceral pleura or the lung itself; but, as previously indicated, a visceral puncture with the small needle used, is not of much importance unless a tubercle be punctured, when infection of the pleura is possible. Embolism might result, even with the small needle, if a venous sinus be actually entered.

In thin persons it is a matter of no difficulty to pass the needle; in well-nourished and obese patient (and such often receive pneumo-thorax treatment), it is not an easy matter to define the space selected for puncture. To render this easier, it will be well for the operator to press the left index and middle fingers, together with middle finger of the right hand into the selected intercostal space as far as possible. The knife should then be thrust through the skin in line with the fingers; then, the needle being introduced into the wound, is unlikely to strike a rib.

Directly the needle enters the pleural sinus, a sharp rise in the proximal branch of the manometer is to be noted. Then, and then only, is the gas to be turned on! With the opening of the cock the manometric negative changes to an equally sharp positive. The sharp rise in the proximal branch above noted, is sometimes rather jerky; this, perhaps, because of the pressure of the needle against the lung, which may close the end of the needle from time to time. When this occurs, withdraw the needle slightly; the jerky rise in the manometer becomes steady as the needle becomes freed from the pressure of the lung.

The gas, in the initial operation, should be given in amounts of not over 50 c.c., the manometer being read before continuing the insufflation. Cessation of the negative, or, rather its transformation into a positive, is a sign that the

operation should be stopped, even though the amount of gas already given be small.

The operation should be stopped if the patient complains of distress of any kind, undue pain, shortness of breath or other evidence of discomfort. Even when it is clear that the patient is suffering from mere apprehension, it will be well to interrupt the proceedings at this first operation; the next sitting usually proceeds without incident. Sometimes a slight oscillation may be noted before the needle enters the pleural sinus; in fact, at such a juncture, there may be *no* pleural sinus, so that the oscillation must not be taken to mean that a sinus really exists.

A much more generous oscillation of the indicating fluid is seen when the needle has penetrated through both layers of pleura into the lung, or into a bronchus; no true stable negative rise is observed here. Instead, there is the even regular rise and fall of both columns of fluid, synchronous with the respiratory movements.

In certain cases of small pleural space (pockets), the manometer registers a sharp negative at first, only to drop to the neighborhood of equilibrium with the first 100 c.c. introduced; a few more centimeters of gas will produce a sharp positive with a complete cessation of the flow of gas.

When an established pneumo-thorax is punctured, the manometer registers a sharp positive; this may mean that the contained gas is under pressure. Either the previously given gas has not been absorbed, or what also occurs not infrequently, fluid has formed in the pleural cavity to such an extent as to place the gas under pressure.

When one punctures a spontaneous pneumo-thorax, the force of the escaping air may be so great as to drive out of the manometer the registering fluid. This may also happen when the patient, during an insufflation of nitrogen, coughs deeply. The manometer should be immediately filled to the zero mark. When it is necessary to do this during an operation, the tube should be clamped between the needle and the "T"; it will not be necessary to withdraw the needle.

On the occasion of a refilling the manometer registers a sharp negative if the previous dose of gas has been, to any great extent, absorbed; a positive, of course, if enough gas remains in the sinus. If the needle, entering the sinus freely, comes up against the lung, the manometer registers a negative, suddenly stops, then, as the needle

is withdrawn from contact with the lung, registers a jerky negative. If the needle has been blocked with blood or tissue in its passage through the chest wall, no registration is observed; if the block be partial, the registration is slow, as is also the passage of gas.

Interesting to note is the pulsation of the fluid in the manometer, which is often seen to be synchronous with the heart's beat; this has been noted in small pneumo-thoraces as well as in large ones and would seem to be due to cicatricial or fibrous formation binding pericardium to pleura. This must produce a more or less rigid walled cavity.

All of the foregoing refers to the water manometer devised by the author as well as by various others, working in this field. The needle being withdrawn, the slight wound is sealed with collodion and cotton. Some operators have considered it necessary to apply the broad adhesive strap, which we also used for a time, but discarded as unessential.

The second operation, or refill, should be done in two days, the third in about three days; the interval may then be lengthened to one week, and so on, according to the general findings, until it reaches three or four weeks. These later fillings are usually done easily, the needle readily finding the pneumo-thorax unless the operator thrusts too far into the chest.

Pain is sometimes felt after the injection, especially on deep breathing; this is probably due to the strain put upon an adhesion, and quickly disappears. However, one must remember that the lung contiguous to an adhesion is possibly friable and, therefore, likely to tear if a large pneumo-thorax is produced too rapidly.

Larger amounts of gas may be given after the first administration, even as high as 1,000 c.c. In the treatment of hemorrhages the amount to be given is limited only by the ability of the patient to take, and the necessity of the case.

After Care: The patient should be returned to bed and kept quiet for the balance of the day. After refills, when the patient is usually up and about, he need not go to bed, but remain sitting in an easy chair. Stooping or straining at stool should be avoided. In case of severe cough, an opiate is indicated.

Sudden increase of intra-thoracic pressure after pneumo-thorax has been known to produce a

mediastinal rupture as well as an open pneumo-thorax.

Still later in the course of the treatment, when the patient becomes ambulatory, he returns home after an hour's rest. The writer cannot approve pneumo-thorax treatment as office practice unless assistants are present, and a rest room is in connection. Many physicians' offices in our smaller cities are so well equipped that they are, in effect, dispensaries or small emergency hospitals; they can readily care for the cases here discussed.

Duration of treatment. How long should the treatment be continued? Some operators recommend that the gas be given for as long as two or three years. Others are not sure when the collapse should be considered complete. When one examines the lungs of patients dead after spontaneous pneumo-thorax a thickening of the visceral pleura is found, together with collapse and hepatization of the injured lung; this, too, after only a few weeks.

Again, examine the lung of a patient dead after an artificial pneumo-thorax of a year's standing. The same condition above mentioned, will be seen, namely, extensive plastic formation over the lung which is bound down to such an extent that it is not possible to conceive of a re-expansion. It is, therefore, safe to assume that, at the outside, two years' treatment is sufficient to produce a permanently collapsed lung.

When it has been determined that the time has come to stop the inflations, one may lengthen the time between fillings, and also give less gas at a sitting. Frequently the patient will complain of some uneasiness in his "tank" as the gas absorbs. In such cases, the introduction of a decreased amount of gas will give relief. After a year's collapse the absorption of gas is slow; nevertheless, it takes place. Sometimes there is discomfort from the marked dislocation of the thoracic viscera, but ultimately, the readjustment takes place; the "good" lung expands as the pneumo-thorax absorbs and the heart gradually accommodates itself to its changed conditions. This I have seen in patients who have returned to wage-earning ability. Some have even entered military service, while *one* pneumo-thorax patient was certified for overseas duty.

Not a few cases will terminate spontaneously, without much warning, in fact. It will be found that the amount of gas at successive sittings becomes less, while there may be some difficulty in

finding the pleural space promptly. This condition may occur within a few months or only after a year. The end results in these cases, while not so brilliant as in those which terminate at will, are not altogether unfavorable, a fair percentage doing very well.

Over-inflation: This may occur even when the manometer shows a fair negative; but if one will be guided by the manometer and give consideration to the patient's feelings, there is very little danger of administering too much gas. During the first two or three injections, it is readily conceivable that the patient may complain of distress, unnecessarily perhaps. Nevertheless, there is no better way to gain the confidence of the patient than to stop the operation directly he complains of anything untoward—it is easy to give gas a little oftener.

Should there actually be over-inflation, as evidenced by shortness of breath, sense of fulness in the chest or pain, the gas should be allowed to escape, or, even be withdrawn by means of the siphon bottle.

Emphysema: This occasionally occurs after operation; it may be the direct consequence of over-inflation and may amount to nothing more than a little crackling under the skin, near the site of puncture, or it may be so extensive as to reach up to the face and down to the hips.

In a large experience one may not see emphysema at all frequently, when the small needle above recommended, is used. But when the pleura has been found to be thickened, it would seem that the wound of puncture fails to close and gas escapes. The condition may be very uncomfortable and may alarm the patient. There is no pain beyond soreness, and it is obvious that there is no danger. The gas disappears in a week or ten days, as a rule.

Effusions: Fluid accumulates in the pleural sac, after pneumo-thorax, in a large percentage of cases. The quantity may be so large as to seriously embarrass the good lung, or it may cause no inconvenience whatever. The appearance of fluid in the chest is heralded, sometimes, by pain and high fever, malaise and loss of appetite, or may not be accompanied by any symptoms which might lead one to suspect the formation of fluid; in some cases the first indication, unless one adheres to the practice of carefully examining the patient before each gas administration, will be a reduction in the amount of gas taken.

Most cases in which the pneumo-thorax has been maintained for some time, present effusions of variable size. The fluoroscope reveals the condition when neither percussion nor auscultation give a hint of it. Patients who have had a pneumo-thorax maintained for a more or less lengthy time, and have, therefore, become acquainted with the possibility of an effusion forming, will often make the diagnosis in their own cases. They hear the splash or feel the motion of the fluid.

The action of the fluid on the lung is, of course, much the same as that of gas—compression of the lung. The manometer gives a positive reading, frequently, before the amount of fluid becomes appreciable by physical methods. A study of the chest above the level of the fluid also reveals a condition of pressure, as proved by the coin sign and other amphoric phenomena. During the acute stage there may be much pain over the affected side, sufficient to call for relief by opiate. One may use the salicylates, coal tars, tincture of iodine, externally, and heat. At times the temperature may rise to 102-103 degrees, while some cases may present a maximum of even 105 degrees. The inflammatory process gradually subsides in a week or ten days, with improvement in the general condition.

After a few days, a puncture should be made as for pneumo-thorax and a reading taken; usually, it will be found to be very sharply plus. If, however, the effusion has not formed in great amount, the gas will very likely have absorbed in some measure, when the reading will be minus. Close watch should be kept on the situation, lest the absorption proceed so rapidly that the lung approach the chest wall; in this event, an adhesion will rapidly form with obliteration of the pneumo-thorax.

In some cases the effusions absorb spontaneously, after a time; in others, tapping is necessary.

Gas Embolism: Our experience has been limited, fortunately, to two cases—neither of which was fatal. Embolism is produced by entrance of nitrogen into the circulation; the gas, to produce the train of symptoms of embolism, must reach the brain. The accident may occur at the first insufflation or at a later one—it may be so severe as to produce instant death, or it may be so mild that recovery comes within a day or so. The symptoms are, when subjective, dizziness, blind-

ness, sense of bewilderment, nausea, headache and numbness in one or more parts of the body. Neither of our cases lost consciousness and both recovered within twenty-four hours.

German writers report numerous cases of embolism and describe convulsions, paralysis and mottling of the skin. Very few cases have been reported in America—probably very few have occurred. The large needle, used on the continent, may account for the high European incidence.

The treatment consists in rest, keeping the head low, and stimulants. Oxygen may be given in severe cases, when respiration threatens to stop. However, in such a case, little remains to be done. A continental writer, whose name I cannot recall, practiced artificial respiration—this is mentioned only to condemn.

Another accident is so-called "pleural shock." From the descriptions the writer cannot see how it differs from gas embolism.

When one considers how many thousands of times the pleura is punctured without accident one wonders whether "pleural shock" exists as an entity. While the author confesses to two cases of gas embolism, he offers for consideration the fact that he has punctured the pleura upwards of five thousand times without other accident.

Partial Pneumo-thorax: Of late there has been some mention of partial pneumo-thorax. This has no basis of reason. No real result is reached by a partial collapse of the lung. Cavities are not and cannot be closed—lymphatics are not sufficiently occluded, and there always exists the danger of losing the pneumo-thorax if the interval be unduly prolonged.

One cannot collapse one portion of an unadherent lung, and leave another part free and uncollapsed. If the operator hopes for a re-expansion, he is playing with fire. A re-expansion means opening up the disease area, with its train of unhappy events. One must decide either to collapse or to let alone!

Tapping: Before deciding to tap it must be determined that it is absolutely necessary to withdraw fluid. As above stated, fluid in the pleural cavity acts as does gas, i. e., as a compressing agent. We should not forget that fluid, *per se*, is not necessarily harmful; unless embarrassment of respiration or circulation is produced by its bulk, one may safely wait before resorting to aspiration. It is safe to say that better results will, in the main, be attained by adhering to the

expectant treatment; there is less likelihood, for example, of free absorption of toxin from the pulmonary lymphatic system, under compression, than when the pressure is removed. In fact, we have seen many cases which have done badly after aspiration, which had not shown signs of serious systemic trouble previously. Again, such cases have rapidly improved directly a pneumo-thorax was induced.

It is not necessary to remove all the fluid in a sero-pneumo-thorax; often it will be sufficient to take away only enough to give subjective relief, say 500 to 1,000 c.c. Should the fluid continue to accumulate, it is well to withdraw about 20 c.c. and inject subcutaneously—what amounts to a form of autoinoculation.

We use a small trocar (16 gauge)—in order to avoid undue pain and, especially, that there may not be a too rapid abstraction of fluid. That this latter may be serious, was shown in a case in which we drew off some 700 c.c. of fluid after sero-thorax of long standing. The patient immediately complained of shortness of breath and began to cough up quantities of glairy mucus. A moderate cyanosis supervened which, with the other manifestations, was only relieved after some 800 c.c. of nitrogen had been thrown into the pleural cavity. Tapping is dreaded by many patients who have suffered through the use of the large trocar. The nick in the skin, above mentioned, will rob the operation of most of its terrors. It seems almost superfluous to mention that rigid cleanliness is essential if infection of the pleural sinus is to be avoided.

It may be objected that tapping as a mode of treatment of effusions after pneumo-thorax, is slow and long drawn out, that it subjects the patient to unnecessary discomfort and pain. In answer, let it be said that most of these cases would be otherwise lost, foredoomed, perhaps, to an early death. The care of these cases is, indeed, tedious to the practitioner, but the resulting comfort and renewed lease of life gained for the patient are an ample recompense.

Detection of the bleeding lung in pulmonary hemorrhage: It is ordinarily considered to be good medicine to refrain from any extended examination of the chest during or after a recent hemorrhage; that is, it is obvious that nothing should be done which might, by any chance, encourage further bleeding. But when it has been decided to induce an artificial pneumo-

thorax for the purpose of controlling hemorrhage, it is clearly necessary to know which is the bleeding lung.

Inspection is not always to be relied on, nevertheless, a careful ocular study of the chest should be made before anything else is undertaken. Lagging of one side is a good sign to consider when it is present.

Percussion: This should be practised gently and will elicit more or less extensive dullness, front or back.

Auscultation: This affords the best means of detecting the bleeding lung. Early, the observer hears very little, as the breath sounds may be very faint or nearly absent. At the time, large bubbling rales may be heard frequently, in the other lung. These phenomena are explained when we remember that the escaping blood floods the bleeding lung in the neighborhood of the bleeding vessel; breath and voice sounds are, therefore, abolished—at any rate, materially diminished. The loud and bubbling rales heard in the other lung are caused, apparently, by the blood overflowing across the bifurcation into the large bronchi of the sound lung.

This blood is soon coughed up and the sounds of this “good” lung become more nearly normal. Later examination will reveal one or more areas of fine crepitation in the opposite lung, in which, as stated above, breath sounds have been diminished or absent.

Needle Blocks: Assuming a free pleural space, it frequently happens that the needle becomes blocked in its passage into the pleural sinus. This may be caused by a bit of tissue, a drop of blood or serum. The occlusion may be so complete as to prevent any registration of the manometer or may be partial, in which case the gas will be taken slowly. Here, also, the manometer will give true evidence of the situation.

It is not usual to see freely flowing blood from the preliminary nick in the skin, but enough may flow to clot in the lumen of the needle.

Where one is satisfied that occlusion has happened, the needle must, of course, be withdrawn and cleaned. Bleeding from the slight wound usually stops after the needle has been passed through the parietal pleura. It is an occasional occurrence that the worn-down needle punches out a plug of tissue, muscle, fascia, etc. The value of the nick is here seen, in that the plug thus made is, perforce, sterile, no modicum of

skin having been taken. It will be seen that, should a portion of the plug thus made be carried into the pleural cavity, no infection will be produced. Boring through the skin, practiced by some operators, can conceivably, carry into the depths of the chest infectious material.

The prompt registration of the manometer is sometimes prevented by the lung itself. The blunt needle being used, it is noticed that resistance is offered by a resilient body. This resilient body is the lung, covered by a *normal or nearly normal pleura*. Now, if the needle be slowly withdrawn, the manometer suddenly registers; this happens, of course, at the first puncture, but may also be observed in subsequent operations where the lung has come down as the result of the absorption of gas. Here it is seen that, were a sharp needle used, the chances of puncture of the lung would be greatly increased. The use of the blunted needle cannot be too strongly emphasized.

Pregnancy and Pneumo-Thorax: What is the effect of pneumo-thorax on the pregnant woman? How does it affect the parturient?

Our experience is limited to four cases and indicates, as far as such a small material can, that a woman with a collapsed lung can go through her pregnancy without danger or discomfort, as far as the pneumo-thorax is concerned.

In three cases noted, the patients, primiparae, went through labor without event; two babies were born alive, while one died directly after birth at six and one-half months. In this last case no reason is known for the premature birth. It would seem, from the results in this small array of material, that pneumo-thorax does not unfavorably influence the course of pregnancy and parturition. What is of more importance, these women, here cited, emerged from the post-parturient period as well as before confinement. This point is especially mentioned because of the well-known tendency of tuberculous women to go to pieces after delivery.

Jobling and Peterson have shown that the products of uterine involution, which is, itself, in effect, auto-digestion, are particularly inimical to peri-tubercular tissues. Assuming that their findings are correct, we have an explanation of the rapid melting of the lungs in tuberculous parturients. If, then, this susceptible tissue is collapsed (compressed) so that it is protected

from the influence of the uterine digestive products, it is evident that the fatal period will, in all probability, be tided over.

The foregoing applies as well to the induction of pneumo-thorax in the pregnant woman as to the matter of pregnancy with antecedent pneumo-thorax.

One finds that, as the pregnancy progresses, the amount of gas taken becomes less, until it may fall as low as 200 cc. If it is deemed advisable that the pneumo-thorax be continued after partus, the lungs and sinus must be carefully watched, lest the gas absorb and that collapse terminate prematurely. Zink¹ mentions pneumo-thorax in pregnancy with a dead child. C. Real² reports a case terminating in Caesarean section. The mother and child did well. S. A. Slater³ reports a case of a tuberculous woman, far advanced, who was collapsed, became pregnant, aborted. Became pregnant again and went to term. We feel justified in saying that pregnancy should not be considered as a bar to the induction of artificial pneumo-thorax; nor should the tuberculous woman with a collapsed lung be forever condemned to childlessness. This does not mean that these women may enter into a pregnancy without due and careful survey of their situation. Pregnancy in a tuberculous woman must demand the most painstaking study on the part of the physician, at all times and under all conditions.

Ultimate Results: Not all cases do well. In our own series of 400 cases and more, by the time this is printed, we have not selected cases. We have "given gas" to patients whose chances of recovery were slight—we have used the last chance, often with failure, as far as return to even moderate health is concerned, but so many patients have been benefited, so many have been sent back to a wage earning capacity, that excuses or apologies do not seem to be called for.

Patients with bilateral disease have returned to work on full time, have shown at later examinations no progress of disease on the uncollapsed side. Two men with collapsed lungs passed army medical officers and one was certified for overseas duty after a strenuous period at Camp Grant.

Even where the patient does not become again

a producing member of society, he often becomes a safe member and a comfortable one. Even where a few years of life are given an otherwise lost case, the operation and time spent justify themselves.

THE ATTEMPT TO CONTROL INFLUENZA IN ILLINOIS.*

J. J. McSHANE, M. D., DR. P. H.
SPRINGFIELD.

The earliest historical record of influenza is that of a pandemic which prevailed in Europe in 1500, and from many descriptions the clinical aspects resemble the pandemic through which we have just passed. Another epidemic occurred in 1743, reaching this country in 1761. Forty years later Europe was again visited by an epidemic of this disease and again in 1788 and '90, this epidemic extending to America. Pandemics reached America in 1802-03, 1830-33, 1836-37, 1847-48, 1889-90 and several years following.

In the latter part of August, 1918, an outbreak of influenza was reported at Chelsea, Mass., and in two weeks 2,000 cases had been reported at Naval Training Station. Shortly after this, or about the same time, another outbreak was reported at Camp Devens, Mass.

In the early part of September influenza was reported in Illinois at Great Lakes Naval Training Station, where 50,000 young men were housed. About ten days later a number of cases were reported in the extreme southern portion of the State of Elco, Alexander county. Elco is a village of 236 inhabitants and from an epidemiological investigation made by one of our field men, it was learned that influenza was brought into the community by a returned soldier from Camp Forrest, near Oglethorpe, Georgia, who was discharged on account of his eyes.

On September 17 this soldier, suffering from a cold and complaining of not feeling well, returned to Elco, saying that all his tent mates had colds. He visited around Elco, spending much of his time at the post office, the popular loafing place in a small town.

On September 20 he visited his fiancée at Cache, Ill., at the time of which visit he had a

1. Zink: Klinik der Tuberkulose, Band 28.

2. Real: Klinik d. Tuberkulose, Band 29, Supplement 7, page 9.

3. Slater: American Review of Tuberculosis, October, 1918.

*Read before the Public Health Section, Illinois State Medical Society, Peoria, May 21, 1919.

high temperature, was coughing and sneezing. He returned to Cairo the same day.

On September 21 the postmaster at Elco came down with influenza and was ill ten days. On the same day a cousin of the soldier came down with influenza, complicated with pneumonia and was ill twenty-one days.

On September 22 the soldier returned from Cairo to Elco, very ill, where he went to bed, developed bronchopneumonia and was in bed thirty days.

On September 22 his fiancée at Cache was taken ill and was in bed thirty days, suffering from bronchopneumonia and hemorrhages from nose many times daily. On this date another cousin of the soldier came down with influenza. The postmaster's daughter also came down with it on the same day. Within the next few days there was an explosive outbreak in the community, there being one or more cases in every home in the village. I might mention that the people living in this little village all live in three and four-room houses or cottages and are intermarried until practically the whole town is related. As is the custom in a small country village, the people visited their sick relatives and neighbors and, in a day or two, came down themselves with influenza. It might be interesting to note that at the home where the soldier's fiancée lived, her three cousins came down with influenza and their father had influenza and bronchopneumonia.

Out of the 236 persons living in this village, a house-to-house canvass gave 199 as having had the disease, seven having died. 84.3 per cent. of the population had the influenza. The epidemic quickly ran its course and strange to say, other nearby villages did not contract their influenza from this source, but at a later date from the wave which spread over the state, coming down from the northern portion of the southern portion of the state.

By September 22, the epidemic had made its first impression on the mortality of the City of Chicago and by October 1 had appeared at Camp Grant and spread with great rapidity and with a very high mortality.

On September 25 the state department of health promulgated rules and regulations for the control of influenza, making all cases reportable by physicians, nurses, parents, school authorities,

hospital and institutional officials, requiring isolation and other precautionary measures.

On September 28 the State Council of Defense created the Illinois Influenza Commission, made up of representatives of Army, Navy, United States Public Health Service, American Red Cross, State Department of Health and the Health Department of the City of Chicago. This commission held conferences almost daily until after the crest of the epidemic had passed in northern Illinois.

The State Department of Health opened offices in the City of Chicago, through which its representatives could be kept in close touch with the influenza situation in northern Illinois, especially on account of the large number of cases occurring in the vicinity of Great Lakes and in towns and rural communities in the northern section of the state.

There were so many calls on the State Department of Health for physicians and nurses in stricken communities that a division was established for the assignment of physicians and nurses. Six hundred and ninety-nine physicians in the state having gone into military service, many communities were without any physician, the nearest often being 16 or 18 miles distant. Through a generous financial provision by the United States Public Health Service, physicians were furnished and similar provisions were made for furnishing nurses through the central division of the American Red Cross.

From the Great Lakes the epidemic spread south and west and this wave proceeded through the state along the great trunks of travel.

In the first week in October, the State Department of Public Health received a telegraphic communication from Rupert Blue, surgeon general of the U. S. Public Health Service, recommending that all places of public gathering throughout the state be closed and the recommendation was immediately transmitted to all public officials throughout the state, but inasmuch as influenza was only epidemic in the northern portion of the state, there was added to this recommendation that it would be applied as individual communities seemed to require. On October 2, the rules were revised and again on October 12 and 16, after conferences with the Illinois influenza commission. Orders were issued prohibiting public dances, public funerals, stock sales, lodge meetings, closing theatres and

moving picture shows and prohibiting all public gatherings non-essential to the conduct of the war. Schools were permitted to remain open if there was adequate medical and nursing supervision and, owing to the splendid and successful work done in the schools by the nurses at this time, many communities were brought to realize the importance of medical and nursing supervision of school children and made the work permanent. Unfortunately, in some places, the authorities did not close the schools as soon as requested and, as a result of such non-closing, in many places influenza gained a foothold in the schools, children contracted the disease and carried it home to members of their family. To illustrate: a mayor of a small village in central Illinois related this instance to me. A boy was ill in school. Seven boys whose seats immediately surrounded him came down with influenza showing contact infection. Respiratory infections, including measles, meningitis, whooping cough, scarlet fever, streptococcus sore throat and influenza are transmitted mainly by fine droplets of germ-laden mucus, and since they are conveyed from person to person by sneezing, coughing and talking, the danger of transmission from one individual to another varies invariably with the distance separating them; the closer the proximity the greater likelihood of spreading the contagion, and since the disease is spread in greater part by direct contact the closing of public or non-essential gathering places was necessary to prevent crowding and to minimize the danger of contact. By quarantine influenza has been kept out of a number of institutions and it was kept out of Goat Island Naval Training Station in San Francisco Bay.

Realizing the value of educating the public in matters of personal hygiene, the State Department of Health sent out many newspaper stories and distributed about one-third of a million pamphlets. Through the State Department of Health, mayors, common councils, proprietors of pool rooms, employers of labor, officials of churches, merchants, hospital authorities and the public generally were notified of measures to help in the prevention and control of influenza.

The early isolation of cases, of course, is of the greatest importance; and is one of the most important measures in preventing the spread of influenza and for this reason the State Department

of Health made the disease reportable and required the isolation of the patient. The department also requested that all persons suffering from colds remain at home, for many of these persons were suffering from mild cases of influenza, from which persons with whom they came in contact contracted severe cases. Many such persons did not feel any responsibility in the matter, but went about freely, spreading the disease everywhere.

The department asked that the face mask be used by physicians and nurses while attending patients. The same applied to all visitors at hospitals, where visiting was permitted. The mask to be of value must be properly made and the mask recommended by the State Department of Health was that used in Durand Hospital in Chicago. The value of the mask is to prevent cross infection, at least from the attendant to the patient. Inasmuch as attendants may become carriers of pneumococcus and hemolytic streptococcus and become a source of great danger to all with whom they come in contact, I feel that the mask has a place in all acute respiratory infections and the use of the mask in some of our army cantonments has seemed to prove the truth of this statement.

Vaccines were supplied the State Department of Health by the influenza commission and the City of Chicago. This vaccine was sent to all physicians on request, who were asked to make a report to the commission on results of such immunization. The reports received were of little or no scientific value. The report of the committee made at the meeting of the American Public Health Association in Chicago was to the effect that no vaccine tried against influenza has to date proved its efficiency, but anti-pneumococcus vaccines against the sequelæ show more promise.

From the beginning of the epidemic up to the first of this year there were reported in Illinois 224,536 cases with a mortality of 17,879 cases of influenza and a mortality of 24,660 of both influenza and pneumonia. From the first of this year up to the present time there were reported 52,995 cases of influenza, making a grand total of cases reported to the State Department of Health of 277,531 cases.

A survey was made of a number of rural communities by a house-to-house census to learn the actual number of cases.

South Wilmington—A coal mining community:

Total population.....	1,406
Total cases of influenza.....	734
Total cases pneumonia.....	62
Total deaths.....	23
Total number of children in village.....	441
Total number of children who had influenza	299
Total number of doctors in town.....	1

Showing ages of influenza cases:

1-10—278; 11-20—185; 21-30—71; 31-40—109;
41-50—53; 51-60—8; 71-80—2.

Wenona—

Total population.....	1,095
Total cases of influenza.....	534
Total cases of pneumonia.....	60
Total deaths.....	13
Per cent of influenza of the population..	48.7
Percentage of deaths from influenza....	2.4

East Wenona—

Total population.....	312
Total cases of influenza.....	190
Total cases pneumonia.....	16
Total deaths.....	3
Percentage influenza of population.....	60.8
Percentage of death to population.....	1.5

East Brooklyn—

Total population.....	250
Total influenza cases.....	155
Total deaths.....	2
Number school children in town.....	72
Number school children who had influenza	54
Percentage influenza to population.....	62.
Percentage deaths to influenza.....	1.2

Mt. Olive—

Population	3,076
Total of influenza cases.....	1,468
Total pneumonia cases.....	76
Total deaths.....	32
Percentage of influenza to population...	47.7
Percentage deaths to influenza.....	2.1

Virginia—

Total population.....	1,295
Total influenza cases.....	603
Total deaths.....	8
Percentage deaths to influenza.....	1.3
Percentage influenza to population.....	46.5

CONCLUSIONS.

Not having accurate knowledge as to the cause, the suppression of influenza has been a big problem. There were no known laboratory methods by which a "Common Cold" could be differentiated from influenza, no approved methods to locate carriers, no vaccines of proven value. The following are a few of the measures adopted in an attempt to control this disease:

Prevention of crowding — closing theatres, schools not having adequate medical and nursing supervision, and other public or non-essential gatherings.

Reporting cases and early isolation of all known or suspected cases. Education as to personal hygiene regarding coughing, sneezing, washing hands, requesting that persons suffering from colds remain at home, proper sterilization of dishes and glassware. Administrative measures were: emergency medical service, establishment of hospitals, nursing service and home service.

DISCUSSION
(Abstract)

DR. WEIS (La Salle) was interested in the matter of prevention more than anything else, and he wished to show what restrictive measures do in the prevention of this terrible epidemic.

He took charge of the health department of La Salle, Peru and Oglesby when the wave of this epidemic was at its recrudescence in the first days of last December, and by the fifth it had gone up to almost as high a point as it had been in the original wave.

He was then getting reports of sixty cases per day. At that time, with the aid of Dr. Winner, he formulated a method or quarantine, or rather a lid to plant down on the town to see what it would do. They closed the three towns up, La Salle particularly, which he oversaw personally.

Everything in that town was closed except the essential businesses—saloons, churches, schools, soda fountains, tobacco stores—everything. They allowed no congregation at all. They had some little trouble doing that, but in the main, the restrictive measures were obeyed by the people.

What was the result? Immediately the number began to fall and by the 26th day of December, 21 days, the last case was reported, and from that day to this there hasn't been a case of influenza in La Salle.

Now, you might say that that is just simply the natural decrease that would come from a normal condition. But in Peru the lid was supposed to be kept down just as tight, but it was not so. There was more visiting. Those people are more sociable and they could not watch them so well. The consequence was that some of the churches had services

and other gatherings were held. They could not keep those people apart.

The last case in Peru occurred on the 26th day of January, one month later.

The population of Oglesby is largely foreign—mainly Austrians, Slavs—and while they closed up the town, they still continued their visits and the influenza continued its visits. It remained there until about the 15th or 16th of February.

He believes that the prevention of personal contact is the only manner and the only method of preventing this spread of influenza and pneumonia. Milk, water or anything else, he don't think has anything to do with it, because if that were true, where does the milk come from that was sent to Boston and to the Great Lakes?

DR. ROBERTSON: You can not stop all activities in a great city like Chicago. That is naturally impossible. It is not practical to stop three thousand street cars, packed to the guards morning and evening with working people. To stop them would stop the industries of the city. To close the schools in the city of Chicago would be to send the children into the streets and alleys without supervision. In the school the children are under the scrutiny of a doctor and a nurse and the corps of teachers. There would not be enough police to keep children in their homes. To close churches in the time of epidemic is to lose the opportunity for health lectures to educate the public. It is to take away from those people the spiritual uplift which they should have at such a time.

I suppose you would stop people from drinking their coffee at such a time. To take away all the staffs they are leaning on in the time of an epidemic is foolish, absolute nonsense.

You say you closed these places to stop—what? Contact? You can not prevent contact in that way.

Dr. Frost of the Public Health Service says the quicker you get the people together the more flare-up you have, and if you have not enough hospitals and nurses, the greater is the territory over which the disease is spread and the better you can handle the disease.

Dr. Weis said he did a certain thing which brought wonderful results. He spoke about the milk. I did not mean to say some milk was shipped from New York down to Boston which was infected. I had in mind a hand to mouth infection, from the hand of the milk boy into the milk. Who wants to drink milk that is unpasteurized, that is alive with tubercle bacilli, streptococcus, pneumococcus and other germs? Is it wise to use such milk? He tells me he uses pasteurized milk. I come back at him and say just because he did use pasteurized milk may be the reason he was successful in combatting the influenza.

We must guard against hand to mouth infection. We must guard our food, our drink, our milk, and we do not want the people to visit. We shut all the avenues of infection we can. But when anyone says he is going to take from the people all the staffs

they are leaning on he is foolish. Anyone who has studied psychology knows that when you get a fear you want to run. Every animal runs but man. He does not run because he is too proud. The other animals run. You cannot control your heart. Fear does control the sympathetic system. You are apt to get cold feet. If you get cold feet you are apt to get pneumonia, and if you get pneumonia, you are likely to die.

If you had been in charge of the great city of Chicago when the fear was getting aroused so that you could not keep the policemen on the wagons, what would you have done? Give them a vaccine. I said it was good because when I injected vaccine into those policemen they stayed on the job. If a health officer comes along and gives the men a vaccine, it will help to maintain the morale of your force, and your death rates will be less.

Do not believe what Dr. Weis tells you. Pasteurize your milk and see that your water does not contain bacteria of any kind.

DR. W. E. SCHOWENGERDT (Champaign): The epidemic at Champaign began among the University students' training corps. About October 1 it developed very suddenly among the students, and there were between 1000 and 1100 affected. After the epidemic had somewhat subsided among the students it developed among the civil population, spreading west and south, in December. The reports in the city of Champaign from the first of October to the first day of January were 2275, with a record of a hundred deaths in those months from influenza and pneumonia both.

The preventive measure that we were interested in, first, as Dr. Robertson said, was pasteurized milk. The milk that the University was using was principally from the Union Dairy which was pasteurized, and from the Champaign Creamery. In fact, 60 per cent. of our milk used in Champaign is pasteurized. Our water is supposed to be good and we are also using a little chlorine in the water so we went on the theory that we must have a hand to mouth infection, this coughing and sneezing and getting the droplets on the hand and then gradually a hand to mouth infection. We saw that restaurant dishes were sterilized.

We made the ice cream parlors use paraffine paper for each dish. However, I don't know that anything did any good. Our churches were closed partly, giving them one service on Sunday. All unnecessary functions were prevented.

When the epidemic began among the University students we immediately got our preventive instructions in the schools, through our nurses and teachers. Though we had schools right in the neighborhood where these cases were, our school children were the last infected.

Now, whether the education through the school nurses and teachers did any good, I do not know, but we certainly kept our children in school. The health officers wanted to continue the schools but

finally, by a political movement, the schools were closed for a short time.

Our death rate shows that we are still getting complications from influenza.

DR. A. L. MANN (Elgin): I do not want to antagonize Dr. Robertson, and yet I do. I want to approve of everything that he has said in regard to the pasteurization of milk and chlorination of water, but milk has absolutely nothing to do with the transmission of influenza in any way, shape or form.

In 1915 I was at Goldfield, Nevada. We had the influenza there before you heard anything about it here. Goldfield was a new camp. Ten thousand people crowded in there within a year or two. The prospectors were out in the hills all around. They came into Goldfield in the fall and winter months and they died like sheep, were buried at night, and the graves were smoothed down so that the people who came into Goldfield and the passengers going through couldn't see the deaths of the night before.

The Nevada State Board of Health came, investigated, and decided that it was streptococcus infection.

From an examination of organisms collected from the air—a short chain streptococcus and a bacillus resembling typhoid—I could not determine whether that streptococcus was the cause of that influenza epidemic or not or whether it was the pneumonic conditions that caused the deaths there.

We had our epidemic of influenza in Elgin, a town of 25,000 or 26,000 people. It was comparatively explosive. We considered the possibilities of segregation and exclusion and found it was absolutely impracticable. We abandoned anything like quarantine.

In the Elgin State Hospital we had four hundred cases developing within a period of three or four weeks. We had twenty-five deaths from that. It was impossible to determine whether the influenza conditions might have contributed to the cause of death or simply precipitated a previous condition. The bacteriological examination of everything that we made revealed nothing. No three cases gave any similar type or group of organisms. The possible factor of influenza is air-born, whatever it is, an aerobic infection and will be found symbiotic with the known organisms that cause the various forms of respiratory diseases.

Our water supply in Elgin is absolutely perfect. We do not have to chlorinate it. In the summer we do not get two bacilli per millimeter. Our milk is carefully watched and it is as clean as milk ordinarily is and a little cleaner than most of it, and 75 per cent. of it is pasteurized.

DR. FROST: In undertaking to draw conclusions as to how this thing has spread, we think that whatever the factors are they are universally present throughout the world. It is not something that is present in New York or Chicago, nor a city here and there, it is something present in the largest cities in the world,

in the crowded quarters, in the best sections of the cities and towns and in the rural population.

I think, on the face of that, we can very readily say that such things as the city water or milk supplies can be included in the preventive measures.

When we get down to discussing details, whether it is transmitted by coughing in the face, etc., we are talking of something of which we know absolutely nothing. It suffices to say the possibilities in that respect are legion.

I would like to mention some instances that Dr. McShane mentioned of the tracing of the infection. I want to say that, while isolated instances do not prove anything, we have reports of quite a number of cases, quite similar in rural localities.

I recall a case from the vicinity of Hattiesburg, Miss., where a man came to town and sat next to a man who had influenza on the train. That man went to a public rally. It was reported by a very careful observer that the first case that developed was a person who had been at that meeting. We have numerous instances of that kind to support that view, that where the person known to be infected went into a crowd and there it started.

I did not wish to enter into any controversy. We must assume that the transmission is something like personal contact, and something that is not peculiar to any particular mode of life because the infection is so absolutely universal.

The chairman: There is one thing I am sorry was not brought up and that is the possible action that pollen might have as a carrier of this kind of an infection. Now, I have been working with pollen, exposing plates, not for the growth but for the pollen that is on those plates and I have never yet failed to get numerous quantities. It is a pollen that we are not familiar with in this locality. I think you will find that there is a great deal to be learned of those epidemics besides things that surround us.

PLACENTAL HORMONE, A PHYSIOLOGICAL GALACTAGOGUE.

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CHICAGO.

The relation between the internal secretions of the ductless glands are not familiar to the medical profession and substitution function, such as occurs between the skin, kidneys, lungs, and alimentary canal is not well understood.

That there is some relation between the mammary gland, the ovary, the uterus, the placenta and possibly other organs, is quite an accepted fact. To know what this relation is, it will be necessary for us to understand why the mammary gland becomes active shortly after the uterus has

emptied itself, and why its activity increases during the weeks following delivery, and also why it ceases to function after approximately nine months of activity.

As a result of study along this line I read in October, 1915, before the Tri-State Medical Society a report of the effect of administering 30

grains of desiccated bovine placenta to the puerperal woman within the first twelve hours after delivery. My report was quite identical with that of Dr. Edward L. Cornell in the November, 1918, number of *Surgery, Gynecology and Obstetrics*. I was able to demonstrate as he did, that the babies whose mothers had been given desiccated

Table I. Placental Hormone Administered Before Delivery

Case	No.	Para	Age	Birth Weight	12-Day Weight	Initial Loss Ceased Day	Initial Loss	Amount of milk given daily (in ounces)											
								1	2	3	4	5	6	7	8	9	10	11	12
1	2	29	6-6	6-6	6th	3 oz.	2½	2½	6	7½	11	9	8	.....	.....	.....	.....	.....	.....
2	6	38	5-6	5-13	...	None	0	0	0	6	12	.....	.....	.....	.....	.....	.....	.....	.....
3	1	24	7-10	7-4	6th	17 oz.	1	2½	12½	5	11½	9½	9	12	19	19	21	16½	.....
4	2	23	6-6½	6-10	5th	1½ oz.	1½	2	8	13½	12½	13½	13½	16	.....	.....	.....	.....	.....
5	1	22	7	6-13	7th	7 oz.	0	0	4	8	9½	6½	.....	.....	.....	.....	.....	.....	.....
6	1	27	7-2½	6-15½	7th	7½ oz.	3	.....	4	6	7½	8	.....	.....	.....	.....	.....	.....	.....
7	1	25	7-6	6-13	4th	16 oz.	½	2½	½	½	3½	3	3	artificial feeding	placental hormone given 3 days after delivery	.....	.....	.....	.....
8	2	39	6-12	6-4	7th	11 oz.	0	3½	6	8½	11	9½	8½	8	8	11½	10½	15½	.....
9	1	29	6-4	6-3	7th	6 oz.	½	3½	4½	6½	7	9	8	12	9½	14	8½	12½	.....
10	1	19	5-15	6-8	5th	1 oz.	2	4½	7½	6½	9½	11	11½	12½	11½	14	13	12	.....
11	1	15	7-15	7-12	2nd	8 oz.	0	1	3½	6½	13½	17½	12½	15½	13½	15½	.....	.....	.....
12	1	25	7-6	7	3rd	9 oz.	2½	5	10½	9	12½	13½	6½	11½	9	.....	.....	.....	.....
13	1	26	7-6	7-5½	6th	4 oz.	1½	2½	10½	10	10½	10	11	13½	14½	17	21½	.....	.....
14	2	24	6	6-3½	3rd	4 oz.	½	3½	5	9½	13½	21	16½	16	16½	.....	.....	.....	.....
15	2	23	7-15½	7-11½	3rd	5 oz.	½	5	7½	14½	14½	16	21½	14	20½	18	17	.....	.....
16	2	31	7-5	6-12	4th	11 oz.	1½	2	5½	7½	5½	9½	6	4	6	.....	.....	.....	.....
17	2	28	7-11	7-7	3rd	5 oz.	1	2½	8½	14	16	19	16½	22	15½	15½	13½	.....	.....
18	3	22	10-11	10-1	6th	1-2 oz.	0	3½	7	4½	13	9½	12½	12½	16½	15½	19½	20½	.....
19	2	21	6-11½	6-15	4th	5 oz.	0	3	6	11	16½	16½	16	11½	11½	9	8	14	.....
20	2	27	7-4	7-1	3rd	6 oz.	0	2	5½	11	8	12½	14	11½	13½	.....	11½	14½	.....
21	2	28	9-3	9½	6th	5 oz.	0	½	9½	13	9½	13½	16	16½	.....	15	20	.....	.....
22	4	41	8	7-13½	4th	9 oz.	1½	2	5	9	14½	17	17	17½	23	.....	23	19	.....
23	1	18	6-11	7	5th	7 oz.	0	2½	8½	8½	11½	10½	16½	11½	14	.....	11	10	.....
24	1	24	5-10½	5-3	7th	8 oz.	1	3	2½	7	4	4½	7	6½	7	.....	4	9	.....
25	1	24	7-10	7-4	6th	1-1 oz.	1	2½	12½	5	11½	12½	.....	.....	.....	.....	.....	.....	.....
26	1	33	8-8	8-7	5th	8 oz.	0	2½	5	7	8	6	9	10½	12½	11	13	8½	.....
27	1	31	7-8	7-9	5th	8 oz.	0	½	3½	2	4	4½	6	8	9	12	13	13	.....
28	1	30	5-14½	5-3	3rd	8 oz.	0	1½	2½	7	7½	7½	4½	6	7	6½	5½	.....	.....
29	1	26	7-4	6-14½	8th	9 oz.	1½	0	½	½	2	7½	7½	7	3½	7½	.....	9	.....
30	1	20	9-1	8-13	4th	15 oz.	1½	2½	5½	9	13	12	13	.....	12½	15½	12½	13	.....
31	1	28	6-6½	6-5	4th	9½ oz.	0	4½	11½	7½	8	13	8½	11½	10	10	14½	15½	.....
32	1	24	6-14	6-10½	5th	8 oz.	1	½	1	4½	9	6½	5	7	10½	13	11½	11½	.....
33	2	27	6-10	6-2	8th	18 oz.	1	4½	10	7	8½	8	.....	7	7	8½	13½	9½	.....

Table II. No Placental Hormone Administered

Case	No.	Para	Age	Birth Weight	12-Day Weight	Initial Loss Ceased Day	Initial Loss	Amount of milk given daily (in ounces)											
								1	2	3	4	5	6	7	8	9	10	.....	.....
1	5	30	7-2	7-4	3rd	6 oz.	0	3½	6	5½	8½	9	6½	7½	8½	10½	.....	.....	.....
2	1	22	5-12	5-11	8th	12 oz.	0	0	3	3	1½	3½	9	8½	8½	.....	.....	.....	.....
3	1	20	7-4	7-2	4th	9 oz.	0	0	3	5	10½	9	12½	9½	14	18½	.....	.....	.....
4	3	21	9-3	8-14	3rd	12 oz.	0	0	4	1	2	8	15½	11½	18	19	.....	.....	.....
5	1	27	6-6½	6-6½	3rd	6½ oz.	0	½	4½	3½	9	8½	12	7½	12	10½	.....	.....	.....
6	1	27	8-8½	7-12	9th	1 lb.	0	0	1½	1	6½	5	7½	11	.....	.....	.....	.....	.....
7	1	29	10	9-7	5th	1 lb.	0	0	7	½	5½	5	9	17	.....	.....	.....	.....	.....
8	1	19	7-10	7-4	3rd	9 oz.	0	0	0	7½	10	7	.....	10½	12	.....	.....	.....	.....
9	1	23	7-4	7	3rd	7 oz.	0	1	1	8	5	9	11	10½	14½	12	.....	.....	.....
10	2	25	7-6	7-10	6th	3 oz.	0	1½	4½	12½	11½	3	7	12	12	9½	.....	.....	.....
11	2	25	7-1	6-13	8th	9 oz.	0	½	5½	8½	12	6½	7½	15	13½	14½	.....	.....	.....
12	1	25	8-7	8-6	6th	15 oz.	0	1½	0	7	11	6	14½	19	10½	16	.....	.....	.....
13	1	25	8-8	9-3	5th	0 oz.	0	1	1½	9	9½	7	11½	9	16½	10½	.....	.....	.....
14	1	25	6-8	6-7	5th	7 oz.	0	½	2½	6½	9½	8	9	7	8	8½	.....	.....	.....
15	2	33	9-5	9-1	5th	13 oz.	0	½	2	5½	9½	3	15½	10½	13	14½	.....	.....	.....
16	2	30	6-2	6-10	5th	0 oz.	0	0	3	6	9	11½	11½	8	11½	12	.....	.....	.....
17	2	26	7-3	7-5	4th	7 oz.	0	2	5	1	8	8	14½	14½	8½	14½	.....	.....	.....
18	2	25	7-8	7-4	4th	5 oz.	0	½	1½	6½	7½	13½	5½	7½	10	9	.....	.....	.....
19	1	24	6-11	6-6	7th	7 oz.	0	0	5½	9½	1½	8½	9½	11	10½	8½	.....	.....	.....
20	2	30	5-12	5-15	4th	3 oz.	0	0	½	5	10½	10½	13½	12½	4½	7½	.....	.....	.....
21	2	23	9-4	8-9	11th	11 oz.	0	½	2	11½	9½	12	8	15	12½	4	.....	.....	.....
22	3	28	7-4	6-15	6th	12 oz.	0	4	5½	9½	7½	18	16½	16½	7½	6	.....	.....	.....
23	1	19	7-5	7	6th	2 oz.	0	0	7	9½	13½	7	21	15½	11	12½	.....	.....	.....
24	1	22	5-7	5-1	9th	5 oz.	0	0	1	4½	4½	2½	8½	4½	10	4	.....	.....	.....
25	3	28	9-5	9-5	2nd	1 lb.	0	0	3½	4	8	11	13½	15	9	22½	16	.....	.....
26	7	32	7-4	6-15	4th	11 oz.	0	0	5½	4	6	6½	12	6	7½	4½	.....	.....	.....
27	2	26	8-7	7-13	8th	12 oz.	0	0	6	10	8	9	6½	13½	13	.....	.....	.....	.....
28	2	26	7-8	7-10	5th	4 oz.	0	0	4½	9	12½	14	12½	16	10	12	.....	.....	.....
29	2	23	8-10	8-2	3rd	10 oz.	0	1½	8	9	14	14	17	15	.....	.....	.....	.....	.....
30	1	26	7-2	6-10	7th	1 lb.	0	1	4½	7	3½	5½	4	5½	.....	.....	.....	.....	.....
31	1	26	7-1	6-13	6th	6 oz.	0	1	5	10½	9	12	15½	18	14	11½	.....	.....	.....
32	1	26	9-10	8-14	5	1 lb.	0	½	4	9	9	12½	13½	14½	13	17	.....	.....	.....
33	2	22	7-4	6-12	0	8 oz.	0	½	5½	11½	10	13	11½	13	13	.....	.....	.....	.....
34	3	33	8-6	8-3	0	3 oz.	0	1	4	7	9½	12	11½	12½	.....	.....	.....	.....	.....
35	2	23	7-10	7-2	0	8 oz.	0	½	2	10½	12	13½	16½	.....	.....	.....	.....	.....	.....
36	1	20	8-4	8-4	4	1 lb.	0	½	½	9½	11½	11½	12½	14½	15	10	.....	.....	.....

placenta began to gain in weight at an earlier day and a larger percentage regained their birth weight on about the tenth or the fourteenth day.

In that paper I quoted Dr. De Lee's text-book on "Obstetrics." He says: "Nature has made woman an exception to the rule of the other animals. In her the secretion of milk does not begin until the second or third day, rarely on the first. This delay is possibly an outgrowth of civilization, in that the function of reproduction is not allowed such full play as formerly, and lactation especially has been neglected for generations, resulting in hypoplasia of the breast."

Table III. Comparative Table

	Average (ounces) 1st 9 days.								
	1	2	3	4	5	6	7	8	9 days
With placental hormone.....	¾	2¾	6	8	10	10½	9	11	11 ounces
Without placental hormone.....	0	¾	3½	7	8½	9	11	11	11 ounces

Table IV. Placental Blood Administered per Rectum After Delivery

Case No.	Birth Weight	12-Day Weight	Initial Loss Ceased—Day	Initial Loss
1	6	5-14	6th	5 oz.
2	5-12	5-14	4th	1 oz.
3	6-8	5-14	2nd	1-3 oz.
4	5-12	5-12	3rd	8 oz.
5	7-4½	6-14	5th	10 oz.
6	7-3	5-12	6th	9 oz.
7	6-9	6-10	4th	9 oz.
8	7-6	7	5th	10 oz.
9	7-6	5-13	5th	1-10 oz.
10	9-8½	8-15	4th	1-5 oz.
11	6-13	6-11	5th	1 lb.
12	6-4½	5-7	....	13 oz.
13	7-0	7-9	3rd	9 oz.
14	7	6-12	4th	7 oz.

If civilization should be detrimental to the function of reproduction, in the case of the human female, it surely is a problem for earnest consideration, and it was this line of thought that led me to use the placental hormone during labor or immediately after the delivery of the child, hoping by this method to hasten the formation of the mammary secretion.

Through the kindness of Mr. Letton, of Parke, Davis & Co.'s experimental laboratory, I was furnished placental hormone in ampule form for hypodermic injection, and was in that way able to administer forty grains hypodermically either during the labor, or at the end of labor. Table No. 1 will show the result in 33 consecutive cases with placental hormone, administered before delivery. Table II, 36 cases without placental hormone. Table III gives the comparative averages of cases with and without placental hormone.

While waiting for a supply of the hormone in

ampule form I resorted to squeezing out the placenta and giving the blood per rectum immediately post delivery, thinking it might be possible that an autogenous hormone, if one could so designate it, might be more valuable. Table IV shows results.

From a study of these cases it is evident that the placental hormone is a powerful stimulant to the secretion of the mammary gland, but that its effect is quite temporary and must be repeated at intervals to maintain its action.

That the secretion of milk will be established on the first, or at the latest the second day, if the placental hormone is administered in large doses previous to, or at the time of delivery.

That the discomfort of a sudden and violent establishment of the mammary function is avoided when placental hormone is administered.

That placental hormone will stimulate the mammary gland at any period during lactation.

That bovine desiccated placenta administered by mouth is our most satisfactory galactagogue.

PELVIC INFLAMMATIONS.*

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We have found the following to be a very sensible working classification of the pelvic inflammations: 1, those of puerperal origin, usually due to the streptococcus; 2, those due to the gonococcus; 3, those secondary to appendicitis, and 4, those due to tuberculous salpingitis. To these we might add a fifth group, if we take into consideration the gummatous inflammatory masses which, according to Castano,¹ are often found when syphilis has a share in a gonococcus or streptococcus adnexitis.

Increasing experience in the management of pelvic inflammations gives increasing conservatism to one's viewpoint. I can think of no other class of pathologic conditions of equal severity, and with as marked tissue changes, in which, taken as a whole, nature is so kind to the affected individuals, not only as regards mortality, but often also as regards future morbidity. Hence it becomes our duty, not only to practice this conservatism in our everyday clinical work; but also to preach it to the laity in properly selected instances, and to the profession as a whole, in

* Read before the 69th Annual Meeting of the Illinois State Medical Society at Peoria, May 21, 1919.

order that patients will not be sent to us with their minds made up for an immediate radical operation at a time when palliative measures, or a conservative surgical procedure at the most, are all that are justifiable.

Surgery has very little place in the treatment of the acute pelvic infections, with possibly three exceptions. These are 1, the opening of abscesses; 2, the removal of the appendix in cases resulting from infections of that organ, providing same can be safely done; and 3, the ligation of infected thrombotic pelvic veins in the presence of a puerperal pyemia due to the liquifaction of such clots and their being thrown into the general circulation. Twice during the past year we have been somewhat mortified in opening an abdomen under the impression that we had to deal with a sub-acute appendicitis, and finding only an inflammation of the serosa of that organ—a peri-appendicitis—due to pus dripping from the open fimbria of the fallopian tube. In neither instance was any thickening of the tubes demonstrated by bimanual examination before operation, but in both, gonococci were found in smears taken at the time of operation.

Acute inflammations of the tubes, pelvic peritoneum and cellular tissues, either puerperal or gonorrheal, are best treated by absolute rest in bed, preferably in the Fowler position, vaginal douching with large quantities of hot water, either cold or hot applications to the lower abdomen, the withholding of food and the avoidance of cathartics. "Here, as elsewhere, we must recognize the basic principle that peritonitis is primarily a protective measure on the part of nature;" hence the importance of rest to the gastro-intestinal tract, as guaranteed by abstinence from food and catharsis, and the proper use of morphin. A few of such patients will entirely recover under this plan of treatment; quite a proportion of them will develop one or more abscesses; while the larger proportion will recover from the acute symptoms of the primary attack without pus, to be left with a chronic semi-invalidism to which is added occasional acute exacerbations.

I think most of us can agree with Clark and Norris,² who in a recent review of this subject, give Simpson the credit for bringing to the attention of the profession the importance of this conservative management of pelvic inflammations, and who, in consideration of the fact that

most of such patients are comparatively young women, advise no operative intervention following such a primary attack. "In the majority a recurrence will sooner or later take place. When this does occur the same plan of treatment is pursued as in the primary attack, but when the acute symptoms again subside, operation is urgently advised, acting on the principle that there will be repeated exacerbations of a persistent infection, which will exert a more and more destructive effect on the pelvic tissues with each recurrence."

If such an infection does not become quiescent under rest and palliative measures, but instead the mass increases in size and the fever persists, then drainage in some manner should be instituted. I do not believe in the so-called abdominal drainage in such cases, as it is not drainage in the proper sense of the word, but merely the establishment of an outlet for fluids under pressure. Almost all such masses can be reached through the vagina, and if any doubt exists as to a safe approach by this route the abdomen should be opened for inspection and palpation of the mass from above, when, as Clark and Norris³ express it, the operator can "thus effect a complete orientation of the pelvic pathologic lesions."

We have on occasion taken advantage of this aid, proceeding safely and adequately to establish drainage from below. If, however, after such inspection through an abdominal incision, it appears that the mass cannot be safely reached through the vagina on account of the situation of the small intestine or for other reason, then the so-called "abdominal drainage" must be resorted to, although this seldom happens and the results are far from pleasing. In such instances the double-calibre glass tube of Heald⁴, with a movable gauze wick, would seem to meet the indications best.

Cullen's⁵ method of approach for a broad ligament abscess, usually puerperal, which is high and not pointing in the cul de sac, is worthy of mention. He makes a gridiron incision, similar to that employed for a simple appendectomy. "As soon as the peritoneum is reached, it is gently pushed toward the median line. The two index fingers then gradually spread the folds of the broad ligament, just as in searching for the vesical end of the ureter. As soon as the area of induration is reached the operator stops. It is usually hard and edematous, and a little wa-

tery fluid or pus escapes. A drain is introduced and the operation is completed. The same procedure is repeated on the opposite side if both ligaments are involved. The advantage here is that the entire procedure is extra-peritoneal."

After tiding such patients over the crisis by drainage of these variously located pus collections, many of them will completely recover, regain perfect health, and go through future pregnancies and deliveries without difficulty. If, however, the pelvic symptoms persist after the temperature has reached normal, and the patient becomes more or less immunized to this particular infection, an abdominal operation is both necessary and safe, for as Saenger expresses it, "we are then in a position to safely remove the debris of the storm, without inflicting injury on the adjacent or barrier tissues."

This will consist most often in a removal of one or both tubes; less often, but more especially in older women, it will be found wise to remove the uterus and ovaries also. It is the fact that the greater proportion of these patients are young women which prompts us to leave all or portions of ovaries, although it is the "physiological effect of such retention of ovarian tissue, rather than a probable restoration to fecundity" that thus influences us in favor of this conservatism. While it is true that we all have had to occasionally reopen an abdomen and remove an ovary or uterus left at the primary operation in the interests of this same conservatism, yet this is far outweighed by the pitiable plight of the young woman whose internal secretions are in a state of imbalance through loss of uterus and ovaries before sexual maturity has been attained.

I feel that we can not accentuate this fact too strongly, for even in this so-called enlightened age of conservative and reconstructive surgery, we still find individual operators who are imbued with an insatiable desire to remove everything from pelvic brim to pelvic brim. In removing a pus-tube, it is good practice to include a wedge of the uterine horn, as Cullen⁶ has pointed out that cornual abscesses occasionally result from infected glands which exist around the lumen of the tube at this point, which, if left behind, may be the cause of further trouble.

Another point which is mentioned by Cullen is that the pelvic floor frequently forms a cork for the bottled-up contents of such a tube, and we have found it good technic to follow his sug-

gestion in first amputating the tube at its uterine end by removing the wedge from the horn of the uterus, clamping and cutting across the mesosalpinx, and then gently loosening the adherent outer end of the tube, having first arranged a pack to wall-off the pus which is very likely to escape with this last maneuver.

During the past eighteen months there have appeared in the literature several articles which I think have at least served to revive interest in the surgical treatment of puerperal pyemia, which is without doubt one of the most serious complications of the puerperium. Notably those of Miller⁷ of New Orleans, Hirst⁸ of Philadelphia and Turrene⁹ of Montevideo, have been of interest.

There are always present, in varying degrees, in every parturient woman, the three essentials for pyemia, viz.: 1. The open venous sinuses at the placental site. 2. The injuries incident to labor, and, 3. Cervical and vaginal bacteria of varying virulency. If the patient's resistance happens to be low, and the invading organisms of a high degree of virulency, she may be overwhelmed by the severe bacteremia or the rapidly spreading general peritonitis before nature has an opportunity to throw up barriers in the way of thrombi.

If, however, the virulence of the invading organism is not so great, and the resistance of the host of better type, a phlebitis occurs and protective thrombi form, which serve for a time at least to prevent the bacteria from being thrown into the general circulation. Death may later result either from an extension of the thrombi into major venous trunks, or from a gradual liquifaction of the thrombi in the pelvic veins, with consequent pyemia.

It is the differential diagnosis and possible surgical treatment of this septic thrombo-phlebitis of the pelvic veins with which we are interested in this paper.

The real impetus that prompted obstetric surgeons to apply the principle of closing off pelvic veins containing crumbling clots was furnished by Zaufel's¹⁰ results in the treatment of pyemia of otitic origin by the ligation of the jugular vein. (Miller) Trendelenburg¹¹ in 1902 published the results of this principle as applied to thrombosed pelvic veins, approaching the same by the extra-peritoneal route. He gave at this time the following reasons for adopting the operation:

It seems quite natural to ask why this same plan of procedure can not be followed in the treatment of puerperal pyemia, if such excellent results are obtained in analogous conditions. There are no marked differ-

ences in a pathologic sense between these two forms of pyemia. In both we meet with instances of pure thrombo-phlebitis and in some cases the lymphatic vessels are involved in the infectious process. The clot formation extends in the same manner in both types, metastatic deposits are liable to occur in both, and the bacteriological findings are likewise identical; in both the examination of the circulating blood often may prove negative, even in severe cases. In both forms we may find diffuse inflammation or a localized abscess in the neighborhood of the thrombus; in the otitic variety, meningitis or cerebral abscess; in the puerperal, peritonitis or abscess of the parametrium. Finally, in either a spontaneous recovery may result, the thrombus becoming organized.

The diagnosis of pelvic phlebitis presents many difficulties at times. Miller thinks the occurrence of chills and high temperature of an irregularly remittant type, together with the palpation of cord-like masses on either side of the uterus, and the absence of pain, constitute the leading points in the differential diagnosis. Hirst believes the diagnosis can not often be made and that little can be accomplished by surgical intervention. Turrene believes the diagnosis can usually be made before the pyemic condition is inaugurated, and strongly urges that the involved veins be ligated before liquifaction of the thrombi begins.

We have had no personal experience in the surgical treatment of septic thrombo-phlebitis, but from a series of observations made on the varicosities of the pelvic veins which we find in certain classes of gynecologic patients, and from a perusal of the literature, we feel that after due care has been exercised in arriving at a diagnosis, it should be given serious consideration in determining on the plan of treatment. Transperitoneal approach should be chosen if surgical treatment is attempted, and ligation of the affected veins is all that seems necessary in pure thrombosis, excision being reserved for those cases showing areas of softening which might lead to perforation, or for those in which the process has already extended beyond the vein.

The low-grade pelvic inflammation due to tuberculous salpingitis in girls and young women, which we occasionally see, should be treated by a course of tuberculin. If this fails to give results, such tubes should be removed without further delay.

In conclusion I would say that it necessitates a wise combination of good surgical judgment and technical skill to properly handle the various

types of pelvic inflammation with which we are at different times confronted; and that the former is much more necessary than the latter, both as regards the securing of best results for the patient and peace of mind for the surgeon, remembering, as John B. Roberts once said, that "a sharp knife is more dangerous in the hands of a clever cutter than a doubting mind in the skull of a thoughtful surgeon, who believes that all problems cannot be solved by a keen edge alone."

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MIDWIFE PRACTICE—AN ANACHRONISM*

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Any movement which has for its purpose an endeavor to create a new type of midwife is to be deprecated, for it is not conceivable that results will be produced by such move other than to perpetuate an evil which has existed in our midst these many years; midwifery is a remnant of medieval times and is entirely out of harmony with modern prophylactic medicine. We must admit that in times past there was an actual economic necessity for the midwife, especially in Continental Europe where the midwife was a recognized institution for centuries; but, with the development of modern medicine, the several countries of central Europe made increasing requirements for the practice of midwifery, and provided ample accommodations for those who wished to be taught the essentials of the subject both by didactic work and a broad clinic opportunity. After she was educated by the state and licensed, that state inspected her work from time to time to vouchsafe to the public poor a reasonably efficient care and security. In this country there never has been this real need or demand for the midwife; our original native population was so largely made up of British ancestry

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who never took kindly to the midwife that we merely tolerated her. On the other hand the foreign element who came to our shores brought with them their customs and habits of their native lands, and their midwives. It is very evident that as these foreign peoples assimilated our Americanisms the necessity of the midwife has become less evident. They, or at least their children, turned to the physician or, in large cities, to the lying-in hospitals and dispensaries for their obstetric care.

The proper care of the parturient woman concerns not alone the physician, but also the sociologist—the interpretation of what is proper care is as much an economic problem as it is a medical one. It matters not whether the woman be rich or poor she should be encompassed with all possible elements of security both to herself and her child. It is a truly anomalous state of affairs which will determine the perpetuation of an institution which manifestly is so largely responsible for the disgracefully high maternal mortality, let alone morbidity, in this country. The United States Mortality Statistics of 1910 in this connection have been repeatedly quoted, but they bear repetition. In women, between 15 and 44 years of age, 25,327 women died of tuberculosis; 8,368 women died as the result of childbearing; 3,339 died of disease of the generative organs; 7,381 died from diseases of the circulatory system. The average age at death for each of these great causes was respectively 32.2, 29.8, 54.1, 60.5 years. We hear much of the startling beneficences which have come from prophylactic medicine, but no amelioration in any department of medical practice has offered such brilliant results as preventive medicine applied to the parturient woman. The writer believes it a fair statement to make that fully 75 per cent, if not 90 per cent of the obstetric deaths cited were preventable.

From the very nature of the case obstetrics has been developed into an actual surgical specialty. Only the properly trained physician who has acquired a surgical technic with a special training in obstetric physiology and pathology is competent to circumvent the many ills of child-birth, and reduce the mortality and morbidity to the lowest possible point. There may be no question but that it is more readily possible to prepare for an abdominal operation in the home than to do the same for a woman in labor; in the former instance one may anticipate all reasonable wants

which might arise in the course of the operation—an obstetric case is an unknown quantity until the labor is happily consummated. It is a far cry from the statement of Dr. E. P. Davis¹ that “Those physicians who are able and willing to install hospital facilities in private homes, to employ a sufficient number of assistants and nurses to maintain hospital technic, certainly have the right so to do. But under no less procedure can the interest of the infant be safeguarded as well in private as in the hospital,”—to the licensing of illiterate, ignorant women to officiate at the crucial moments of a young woman’s being. It is truly an anomalous condition of affairs when an ignorant woman, perhaps hardly able to read or write, may take a brief course in a midwife diploma mill—for in this country there practically are no others—pass the examination and be licensed to practice midwifery without one practical lesson in asepsis, or the conduct of one obstetric case. On the other hand, the medical student has increasing demands in his preliminary qualifications, an exacting two years study in the fundamental branches of medicine, and two years of arduous work in the clinical branches before he is permitted to come up for licensure, before which he cannot personally, and alone, conduct a normal labor. Is it not incongruous that the midwife status is as it is in comparison to the exacting demands put upon the young woman who desires to become a nurse, registered by the state after completing her hospital training, a high school education at least, three years of her life in hospital training for a work which logically is subordinated to the direction of a physician; the midwife, like the proverbial bull in the china closet, is allowed unrestricted sway to work her will, the nurse merely the hand maid to the physician?

Of course legislation often is inconsistent—laws are incongruous in that effectiveness of their enforcement is often inversely as to their importance in the common weal. A man who expectorates on the sidewalk is far more likely to find himself amenable to the law than the professional criminal abortionist.

In 1907-8 a joint committee of your Society and Hull House investigated the midwives of Chicago. So far as I am aware there has been no reformation since this investigation was con-

¹Report, Ninth Annual Meeting of the American Child Hygiene Association, p 111, 1919.

cluded, so I am reasonably sure the results elicited then would be duplicated now if a similar study were undertaken anew. The names were taken from the classified list of the Chicago City Directory. There were at the time 466 names of midwives recorded in the classified pages of that volume. For purpose of study 223 names were taken from the list and visited; 21 women refused to be interviewed. Certain salient features were tabulated, among which were these:

1. *Registration*—

- 21 (9.4%) were correctly registered.
- 123 (55 %) were incorrectly registered.
- 57 (25.5%) were not registered.

2. *Criminality*—

- 4 (1.8%) convicted for selling drugs.
 - 2 (0 %) trial pending.
 - 3 (1.3%) found not guilty.
 - 4 (1.8%) offered to sell drugs.
 - 49 (21.9%) agreed to perform operations.
 - 19 (8.5%) agreed to take patients into their homes, contrary to law.
 - 22 (9.8%) were surrounded by suspicion, had instruments in their possession, etc.
-
- 103 (46 %) were criminal or had criminality cast upon them.

Over 10% expressed an entire willingness to conduct abnormal labor cases—all the complications of obstetrics.

Midwifery never has been a dignified profession in the United States, from the very nature of things such were not possible. For many years there has been an opinion which the figures given above substantiate which would preclude a self respecting woman of intelligence and education from undertaking midwife practice. This opinion is so in-bred that no endeavor sponsored by legislative action or actions of properly accredited bodies, could overcome the extreme prejudice which would deter a rightly educated woman. The old saw that a little learning is a dangerous thing was never so true as in the case of the midwife. Badly taught, inadequately experienced, she never can grasp the broad fact that the delivery of a woman is a serious problem, that grave risks may surround her, that many of the obstetric complications are so fulminating in their development and course that

a lethal outcome occurs in hours, even minutes. How can the crude mind of a midwife appreciate the gravity of an impending eclampsia, a contracted pelvis, an heart disease, etc., and secure adequate assistants at an early moment? Either midwife practice, or the great demands required for medical practice, is an absurdity, and certainly no one will believe otherwise than that as medical knowledge increases the requirements for medical practice should increase.

It is many years since I investigated the procedure used in examining candidates for midwifery, and a like period since I read some questions asked at such examinations. I have read questions which if answered with rational intelligence would require the knowledge of a senior medical student. You may know, but I do not, how it is possible for the illiterate midwife candidate to answer some of them when some of the so-called midwife schools inform prospective students that books are not needed—all that is to be learned will be given by word of mouth. Too, in those days, the candidate for licensure who could not read or write English was required to furnish her own interpreter, you may readily imagine the possibility of fraud creeping in in such a dual examination.

The facts that have been presented in this paper are given for the purpose of showing the uninviting field in which one would have to work in an endeavor to elevate the morale, the standing, so that midwifery might be ennobled. To do this is such an herculean task that it would be better to enforce existing laws and regulations until that time when the midwife will be survived by the fittest, when the state will cooperate with maternity clinics conducted by the various local hospitals and state institutions so that a concerted effort may be made to supply a real medical (obstetric) care for the indigent, the people in comfortable circumstances will seek physicians and lying-in institutions where an approved stipend will be levied. In the interim, the way is clear for the education of the public along the lines of the conservation of life of mother and baby. Maternity clinics and infant welfare stations will do more for the education of the public than any legislative action which is conceivably possible. The county, city, and state have made phenomenal provision for the care of the indigent sick, but hardly a cent has been expended in developing a broad,

comprehensive scheme for the care of mothers and babies—whatever has been done has been secured almost entirely by private endeavor. It is high time the state should become a party to such activity. If our state and county and municipal bodies would appropriate funds for such educational institutions which would become hospitals, in fact, utopia in obstetrics will be more certainly secured than by coercive legislation and regulation of the midwife. Too, it goes without saying that most medical schools need a reorganization of their obstetric departments, in many instances marked improvement will be necessary before obstetric teaching in schools will be properly conducted. In this connection it is an insult to the intelligence of this community that the one great public obstetric clinic of this country, Cook County Hospital, Maternity Wards, is practically closed to medical students for instruction. Some day an united Board of County Commissioners will override the protests of the maudlin purists and reformers who have locked the doors of Ward 14 to medical instruction, and the Chicago medical center will then have one of the best obstetric clinics of the country.

The common failing of legislative bodies is to create new laws, covering specific subjects, when old laws are amply comprehensive in their intent and purpose. At the present time, in our state at least, the statutes offer infinitely more protection, in theory, than justify the exigencies of our public welfare. Failure in recognition of existing legal regulation is more dependent upon our administrative bodies and judicial system than upon legislative control. At the present time the general statutes covering midwife practice, and the police power conferred upon the State Department of Health with powers of originating rulings which are as effective as the laws promulgated by the legislature, give ample authority to the properly accredited officers to secure enforcement; but the judicial system in this state is so archaic and cumbersome, the possibility of circumventing the intent of the law is so devious, that failure of enforcement is more dependent upon the latter than the former. It would be an invaluable expedient if it were possible to have all those accused of transgressing the medical laws of the state be tried before one judge in each large community, as is the case of the *speeders' court*. During the

years the writer was a frequent participant in criminal abortion trials it was palpably evident the judge on the bench and the prosecuting attorney knew little of the legal and moral facts concerned in the case in comparison to the defendant's attorney who was not only learned in the law, but thoroughly conversant with the medical aspect of the trial. The same stricture applies to the trials conducted against persons accused of infractions against the medical acts.

The best system for the control of midwife practice ever devised in this country was that outlined by Dr. Frank W. Reilly in 1896, then Assistant Commissioner of Health of Chicago, and before that Secretary of our State Board of Health. He created an Obstetric Staff of the Chicago Health Department. With its advice and cooperation rules and regulations covering the midwife practice were promulgated. These rules and regulations were approved by the State Board of Health at their meeting July 9, 1896, and, in fact, became the rulings of that body. The several members of the "Staff" were assigned districts in which it was the privilege of the indigent obstetric woman to call for aid and consultation if the midwife found complications. The regulations defined what the midwife could and could not do, gave explicit rules for her guidance if she was beset with difficulties, and, most important of all, was required to register anew with the medical inspector of midwives within thirty (30) days. The latter was the crux of the situation. Perhaps, a baker's dozen filed their certificate of licensure with the inspector—the rest refused to respond. It is not necessary for me to state what machinery was started effectively to stop the efficiency of the new regulations, and the good which surely would have accrued from a reasonable enforcement of them, you know the process as well as do I. So far as I know, these regulations of the Health Department, and rulings of the State Board issued July 9, 1896, were never rescinded—they merely fell by the wayside.

CONCLUSIONS.

1. Midwifery is not in consonance with the spirit or intent of modern scientific medicine.
2. *Safety first* is the slogan of modern times; there is no safety for mother or child in midwifery.

3. The midwife, as a class, is the worst transgressor of the medical practice act we have, and the most flagrant violator of our criminal code.
4. The fact being that midwifery is in such disrepute, and merely tolerated, no legislative or administrative action could raise it to a dignified profession, at least in this country.
5. While practically there are no midwife schools other than so-called diploma mills in this country, nothing would be gained by a scheme to create a midwife school under accredited authority.
6. First, a concerted endeavor should be made to weed out all unregistered, or faultily registered midwives.
7. Instead of the conglomerate and indiscriminate jumble of names of midwives, osteopaths, 'practices of all sorts, and incidentally regularly licensed physicians, our county clerks should be required to have separate entries for each class.
8. An aggressive campaign should be instituted which should secure the conviction of all violators under the medical practice act. Also, there should be a revocation of license of all those convicted of a felony.
9. It is essential that there be a new survey of the condition of midwives at an early moment, so there may be an intelligent knowledge of the situation as it exists today.
10. For our democracy, probably, no plan is so practicable as that outlined by Dr. Reilly. At an early moment the State Board of Health should make its regulations effectively operative. It would enhance the effectiveness of the regulations if it were feasible to require frequent inspection by accredited officers, of the person and equipment of the midwife.
11. At best, midwifery is built upon shifting sands—any attempt to place the practice upon a firm foundation will merely interfere with plans for granting the poor parturient woman scientific obstetric care.
12. A coordinated movement for the purpose of education which will convince the public which we serve that scientific obstetric care is the true conservation of the home

will accomplish more good than any aggressiveness in uplifting the midwife.
122 South Michigan Avenue.

THE FOUNDATION FUND
of the
TRI-STATE DISTRICT MEDICAL SOCIETY
IN OUTLINE.*

HENRY G. LANGWORTHY, M. D.
DUBUQUE, IA.

The Tri-State District Medical Society of Illinois, Wisconsin and Iowa, at the Rockford meeting in September, 1919, unanimously voted to adopt a definite plan for raising a Foundation Fund for the society and appointed a general chairman and a representative committee from the three states to raise it.

THE PURPOSES.

The reasons for the establishment of the fund by the society are as follows:

First: A foundation endowment fund will establish the association permanently.

Second: It will give it a high standing as a medical body.

Third: It will make it independent of any personal or political aggrandizement.

Fourth: It will permit the society to pay its own expenses without any assistance from outside sources such as the Chamber of Commerce in the different cities where meetings are held.

Fifth: It will enable it to get the very finest material for programs and the most eminent men in the profession. The society feels that it should at least pay a part of the expenses of these men.

Sixth: It will bring to the medical profession of Iowa, Illinois and Wisconsin and the Middle West once a year, and possibly twice a year, a medical and surgical clinic (if not a general meeting) that could only be secured otherwise by the physician by a great deal of individual expense and quite a period of absence from practice.

Seventh: Founded on service it will be the cause of making all members of the association broader and better physicians as well as up to date medical men in the profession.

It is the profession and incidentally the public of the smaller cities who will derive the most good from observing our great American teachers in action at close range brought to their home city.

WIDER FIELDS.

There are many other reasons, of course, why a Foundation Fund is necessary for a progressive and up to date medical association and almost too numerous to mention. In carrying out any extensive plans, however, the society must have a dependable

*Abstracted paper. Read before the Tri-State District Medical Society at Rockford Illinois, September 2, 1919. Plan of establishing and raising the Foundation Fund officially approved by the trustees and adopted by the society in regular convention on same date.

income to insure its complete success. With a very little cost, however, to any individual, it is now certain that the fund will be raised quite successfully and in a reasonable time, making this medical organization of the greatest practical good to every member in the years to come.

PERMANENCE OF THE FUND.

The principal of the Foundation Fund is to be held intact and the income only to be expended. To make sure of the permanence of the fund it has been placed by the trustees of the society in the care of the Federal Deposit & Trust Co., of Dubuque, Ia., under the expert management of bankers and other men of large business experience. All remittances are made payable to the order of the Federal Deposit & Trust Co., Foundation Fund Trustee, and not to any person. A permanent trust company located in the geographic center of the district at the junction line of the three states will thus uninterruptedly act as the financial secretary for the fund and under the strict controlling trust laws of the State of Iowa.

THE PLAN.

The plan adopted by the society, a legally incorporated body in Illinois is as follows: The fund to be raised has been placed at not less than \$100,000.00. While the society may not be able to collect that amount right away, it is the minimum ultimate goal, and ought not to present any great difficulty. Once started the fund is bound to grow, through personal contributions, through legacies and through all of the various means which will be adopted by the society from time to time to increase the principal. The income from this fund will be used to defray such society expenses as are considered proper by the Board of Trustees and by vote of the members in very special instances. According to the Rockford resolutions officially adopted by the Board of Trustees, and by the unanimous vote of the members of the society at the convention, Dr. Henry G. Langworthy of Dubuque, Ia., was appointed to plan and direct the organization and collection of the Foundation Fund and the Federal Deposit and Trust Company of Dubuque, Ia., to act as trustee and custodian of moneys and securities under the joint direction of the trust company, and Dr. H. G. Langworthy or his successor and under the full control at all times of the Board of Trustees of the Tri-State District Medical Society. This arrangement would certainly seem as ideal as can be made for the safety and perpetuity of the fund and for real financial service to the society. Subscriptions will be accepted in amounts of from \$50.00 to \$500.00 and upwards. The plan of payment for subscriptions is also an easy and practical one, the payments to be spread over a period of eight months if desired by the subscriber. For instance, if desired, 15 per cent may be paid either upon signing or within ten days of signing a subscription, 25 per cent to be paid as the second installment, 25 per cent as the third pay-

ment and 35 per cent as the final payment at the end of eight months from the time of signing the subscription. The profession is asked to subscribe as generously as possible to the fund so that a considerable amount of the total may be raised at once. All subscriptions should be made payable to the order of the Federal Deposit & Trust Co., Foundation Fund Trustee, and either mailed to the trust company, Federal Bank Bldg., Dubuque, Iowa, or handed to the chairman or some member of the committee or officer or trustee of the society. To make the payment of the subscriptions even still more practical it is provided that the payment of the full amount of the subscription may also be made in Government or Municipal Bonds or other good securities taken at a fair market valuation. Upon full payment of subscription each subscriber in consideration of his co-operation, real humanitarian service and vision will be issued a foundation fund certificate as one of the founders, acknowledging not the amount of dollars he has contributed, but the interest and spirit embodied in the gift. A little later a booklet of donors with their names, addresses, amounts subscribed and other arrangements as thought best for proper publicity will be issued to society members, and be kept revised to date and reissued as necessary. The splendid programs, democratic meetings, absence of politics and work of this society, though young in years, has already secured the attention of a wide section of the country and bespeaks for it the fullest measure of success. The following well known physicians from Wisconsin, Illinois and Iowa form the Foundation Fund Committee pledged to the raising of the endowment fund:

FOUNDATION FUND COMMITTEE.

ILLINOIS.

Dr. James McDonald, Aurora
Dr. Roland Hazen, Paris
Dr. Hugh M. Orr, La Salle
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Dr. Emil Windmueller, Woodstock
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 Dr. David S. Fairchild, Sr., Clinton
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 Dr. William L. Allen, Davenport
 Dr. John O'Keefe, Waterloo

For further information apply to Dr. Henry G. Langworthy, Chairman, Foundation Fund Committee, corner 10th & Bluff Sts., Dubuque, Iowa, or Dr. William B. Peck, Freeport, Ill., Managing Director, Tri-State District Medical Society.

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APPLICATION TO CIVIL PRACTICE OF THERAPEUTIC PRINCIPLES ESTAB- LISHED IN TREATING WAR IN- JURIES TO THE THORAX.*¹

J. L. YATES, M. D.,
 MILWAUKEE, WIS.

More than half of the deaths from war injuries to the chest occurred within the first two days and were the result of anatomic destruction, hemorrhage and shock. After this initial period the largest proportion of deaths and the greatest degree of disability resulted directly or indirectly from pleuritis.

Pleurisy has been the most frequent indication for intra-thoracic intervention in civil practice. Pleuritis has been the greatest obstacle to success of thoracotomy undertaken for the relief of other diseases.

The factors concerned in preserving the structural and functional integrity of the pleura cover virtually the entire field of thoracic surgery. They involve general and local resistance, tissue repair and the ultimate effects of this repair upon respiration and upon both pulmonary and systemic circulations.

The most valuable single contribution that

military thoracic surgery can make to civil practice will be in helping to promote therapeutic means, to restrict the intensity and duration of pleural irritation, and to limit its extent.

Since the problem is important to all clinicians, the discussion will be limited to the reactions incidental to acute pleural irritation and to means of protecting resistance thereby reducing ultimate disability.

Consequent upon pleural irritation, there is a prompt profuse serofibrinous exudate. The amount, and later the character, of the exudate is determined by the location and the size of the area involved primarily and by the intensity and duration of the irritation. In general, the rate of effusion exceeds the rapidity of absorption, so that an excess of fluid appears in the pleural cavity. This excess fluid causes a corresponding degree of pulmonary deflation.

There is a tendency for the process to propagate itself. The excess serum as it is diffused from the area of reaction carries with it any irritants free upon the surface. Moreover, a serious exudate is itself an irritant and is irritating in proportion to the number of cells, and the amount of fibrinogenetic substances it contains.²

There is in consequence a tendency for an increasing amount of fluid to appear in the pleural cavity and this in turn to cause greater pulmonary deflation and a wider separation of the pleura surfaces with consequent formation of more dead space. In rare instances this process can produce, in less than twenty hours, an effusion sufficient to cause complete homolateral atelectasis and a fatal embarrassment to the circulation.

Usually the reaction is self-limited through an isolation of the site of most intense irritation by a formation of fibrinous adhesions to contiguous serous surfaces and by meeting the excess serous exudate with a less intense defensive reaction and by more rapid absorption.

This is the first step in natural methods of checking the dissemination of irritants and thereby restricting the extent of inflammatory reaction. It should be recognized that the elimination of irritants is accomplished not only by sealing up the affected areas with fibrin, but also the chief sources of the irritants, cells or bacteria are enmeshed by the exudate at the same time.

1. This report is based upon work conducted in France and being continued in the Columbia and County Hospitals and at the University of Wisconsin with financial assistance from the Research Division, American Red Cross.
 *Read before Tri-State Medical Society, Rockford, Illinois, September, 1919.

Another step, limitation of motion, also to restrict dissemination is taken simultaneously. Pain reflexly inhibits the depths of inspiration chiefly by limiting costal excursions. This limitation is inadequate, if the irritant is intense or protracted. In that case diaphragmatic contractions incidental to respiration or to coughing must be more completely controlled. A paresis or paralysis of the diaphragm on the affected side is produced spontaneously by blocking the phrenic nerve, possibly at its center or more probably by some form of edema or more advanced reaction in the sub-pleura part of the trunk. At this stage the loss of motion is not due to muscular degeneration.

The third step in defensive reaction; a maintenance of increased local blood supply is defective and explains the limited resistance of the pleural cavity. As effusion increases, pulmonary inflation decreases. Normal blood supply of the lung and visceral pleura demands at least a normal degree of inflation. Moreover, irritation of the visceral pleura causes not only a serous, but also a subserous reaction and the cortical pneumonitis thus produced becomes an additional block to pleural blood supply where it is most needed.

The significance of these changes becomes evident with the realization that the powers of resistance of the entire pleural cavity are centered mainly in the visceral surfaces. It seems that pleural resistance diminishes more rapidly than the increasing disability of the visceral layer might indicate.

Therapeutic agencies to reinforce natural defenses are easily determinable. They must assist in the elimination of irritants, co-operate in reducing dissemination of irritation and most important of all, prevent deflation and consequent reduction of blood supply to the visceral pleura.

Practically this amounts to prevention of accumulation of fluid and the administration of opium in full physiological doses to reduce metabolism and consequently the demand for oxygen.

The chief question centers about the methods of drainage. Unlike the general peritoneal cavity, the general pleural cavity can be drained and usually the drainage can be maintained so long as there is fluid to escape.

No complicated apparatus is required. A 15 F. male catheter attached to a flap valve suffices.

Inspiration alone increases intra-thoracic pressure enough to cause fluid exudate to escape. The flap valve permits this outflow without resistance and also prevents any return of air. At the same time pulmonary deflation is prevented and pulmonary inflation augmented. This automatic system is preferable in acute pleurisy to forced suction through the drainage tube or to abnormally increased intra-tracheal pressure however it is induced. Physiological readjustment is safer and more accurate if it develops gradually.

Attention should not be focused upon what is desirable to accomplish to the exclusion of what is essential to avoid. Treatment must be determined by the liability of late untoward effects as well as by immediate dangers. There are four common complications to be considered, chronic diffuse adhesive pleurisy, chronic cortical pneumonia, permanent disability of the diaphragm and myocardial irritability.

Chronic adhesive pleurisy.

Serous surfaces go through definite phases in healing. At first adhesions are inevitable and desirable. After this period early disruption of the adhesions by *active* motion accomplishes either their disappearance or stretches them to the point of not impeding natural movements of involved surfaces. Permanent adhesions of this type do not interfere with respiration and are of consequence only through reducing resistance if another pleurisy should occur. The more generalized and the more fixed the adhesions the greater the restriction of respiratory movements; the more marked the dyspnea of exertion and the greater the danger of subsequent tuberculosis.

The liability of this handicap to follow pleurisy has been underestimated. A simple uninfected hemothorax of less than 1000 c. c. has caused a complete obliteration of the pleural cavity. Pleural effusions are not less irritating than blood and should be considered as likely to have induced an equal degree of diffuse reaction which, if neglected, can result in the most unfavorable type of chronic adhesive pleurisy.

Chronic Cortical Pneumonia.—The acute superficial pneumonitis due to irritation of the visceral pleura is prone to organization. The processes of repair in the internal surfaces of the lung are identical with those on the pleural surface. Exudates within air cells become more

2. This assertion is based upon experimental observations made by Dr. W. S. Middleton with the collaboration of Dr. Robert Drane and upon observations made in treating the wounded.

permanent as they persist and by their persistence handicap respiration and have a potentiality for damage similar to chronic adhesive pleurisy.

Permanent Disability of the Diaphragm—Pryor has called attention to the frequency of this sequel to pleurisy and discussed its causes. It has great bearing upon subsequent welfare and is quite possibly a big factor in explaining the delayed and incomplete recoveries which followed expectant treatment of thoracic injuries. It is more crippling in the degree of consequent dyspnea occasioned than are diffuse adhesions.

Inactivity of the diaphragm is accompanied by decreased costal excursions on the same side so there is a very material interference with respiration. This apparently is due to some disturbance in the central nervous system as it accompanies the transient paralysis occasioned by blocking the phrenic with cocaine in the cervical region. Capp's observations upon the sensory fibres in the phrenic nerve offers an explanation. Pryor suggested that the diaphragmatic disability might be due to a chronic myositis. This is true in certain instances, at least, and in one microscopic evidence pointed to a direct extension from a chronic empyema.

Myocardial Irritability—Tachycardia is frequent, often persistent, and out of proportion to dyspnea. Early activity is essential to a good recovery, but when rapid and particularly when rapid and irregular action of the heart is present that individual must resume activities gradually to avoid serious damage to the heart.

Granting early recognition of pleuritic effusion, a single aspiration may suffice. It has the disadvantages of more rapid evacuation and the benefit is usually transient. A catheter drain can be introduced with very little more distress than is caused by inserting an aspirating needle. The relief is sufficiently more certain to justify its use as soon as a diagnosis is made.

The location for the drain and its insertion are best controlled with a fluoroscope. Usually the lower level taken by the lung at the end of inspiration near the mid-axillary line is the most advantageous point. As it may be desirable for the catheter to remain in position for several days, it is expedient to provide a flap to cover its track when it is withdrawn. The skin should be dislocated over the point selected, held in this position and infiltrated with a local anesthetic. Infiltration is then made gradually deeper to

assure anesthetizing the parietal pleura. The needle is then pushed through the pleura and the piston of the syringe withdrawn to gain desirable confirmation. A small slit in the skin makes introduction of trochar and canula easier. As soon as the trochar is withdrawn, a catheter is inserted. This should fit the canula accurately enough to prevent entrance of air, but not so snugly as to interfere with withdrawing the canula. A fluoroscope is of aid in seeing that the catheter is properly placed. The tip must be free in the pleural cavity, but should not be in contact with diaphragm or lung. This position is maintained by fixing the catheter to the chest with narrow strips of adhesive plaster.

After care is equally simple. Until the temperature is down, the individual should be recumbent upon the unaffected side, and kept deeply under opium. As soon as the temperature stays normal, sitting upright is desirable and thereafter increasing activity. When the lung is fully distended, the tube should be removed as some discharge will persist as long as it is in place. It is quite immaterial if it be removed too soon. Reinsertion is so simple. Permitting it to remain too long is serious as this causes dense adhesions.

Progress should be controlled with fluoroscopic examination and by skiagrams to guard against overlooking an encapsulated empyema. As soon as possible, with due regard to myocardia protection, breathing exercises should begin and physical activity increased. This will assure complete recovery with the least delay.

This form of treatment, which is merely a continuation of the teachings of Bowditch can scarcely be classed as surgical. Properly used, it should reduce the incidence of and the death-rate and disability resulting from empyema.

The same principle of one way drainage is applicable in establishing primary drainage when a thoracotomy is performed. If a pleurisy is already present or if more than the usual post-operative pleural reaction is probable this simple procedure gives a wide margin of safety.

CONCLUSIONS.

Prevention of pulmonary compression and deflation is the most essential feature in treating acute spontaneous pleurisy with effusion and in minimizing the dangers of pleuritis after thoracotomy.

Pulmonary inflation can be attained by the

early application of one way air tight drainage.

The serious late complications of chronic diffuse adhesive pleurisy and of diaphragmatic inactivity can be to a large extent obviated by this procedure if supplemented by the use of active motion as established in treating acute inflammation in other serous cavities.

RECIPROCAL RELATION OF WISCONSIN WITH HER NEIGHBORS*

JNO. MORRIS DODD, M. D.

Secretary, Wisconsin State Board of Medical Examiners,
ASHLAND, WISCONSIN

My object in presenting this subject before this body is to call to the attention of the profession of the states bordering on Wisconsin, the lack of uniformity in our medical laws. The inquiry continually comes as to why a doctor licensed to practice in one state should not be equally qualified in any other state. I wish to bring out discussion on a subject that will ultimately lead to a solution of the question of common license to practice in any or all of the states of the union. It is understood, of course, that I do not claim to be presenting a new subject for it is one that has claimed attention of some of the leading minds in our profession for some time past.

Laws regulating the practice of medicine have a two-fold purpose. Primarily to protect the public against incompetent or dishonest practitioners and secondarily to protect the reputable practitioners who have prepared themselves by a long, laborious and expensive course of education and preparation and are honestly trying to prevent, relieve and mitigate the physical ills of their fellow beings. There have always been hanging to the skirts of the medical profession a varying number of cults, healers, etc., who soon get to the point which they believe is the acme of medical knowledge and endeavor by all sorts of short cuts to get into the circle where they may be considered on an equality with the educated and competent doctor. They seek, not to rise to the heights of scientific achievement, but rather to bring all else down to their own level.

There is ever the charm of the miraculous, the lure of the mystic, belief in spiritual endowment

and Divine call that appeals to the afflicted, and calls into service a class of practitioners who are willing to administer to or impose upon them. There are some of these cults that might be useful branches of the great tree of medical knowledge, but the trouble with them is that they believe themselves the main trunk and that the regular medical profession is only an organized group seeking its own protection. Much capital is made by these people out of the expression "Medical Trust," seeking thereby to invoke the common dislike of trusts and in true Bolshevistic style bring distrust upon the real benefactors of mankind. Unfortunately, education and enlightenment have not yet removed us from the sphere of their influence for the most educated and refined are among the most ardent devotees of the rankest quackery.

There is another class as educated as the rest of us, understanding human nature better than the most of us, commercial in spirit, selfish in nature, believing that the one thing worth while in life is money and to acquire it are willing to prey upon the frailties of humanity. They are cunning advertisers and play the game well. They are always with us, and though we at times despair of ever being rid of them, the advertising quack is undoubtedly becoming less numerous as his activities are restricted by law and his methods are brought into the light of day. To this class the credulity of the people is a rich asset and the imaginary more than the real ills of humanity furnish an abundant harvest. Laws regulating the practice of medicine are now operative in all the states, but each has its own and the lack of uniformity in them makes it necessary to administer each separately, therefore there is a department in each state whose function is to enforce this law.

In Wisconsin the Medical Practice Act safeguards the health of the people about as well as it is possible under present conditions. The enactment of the present law provoked a storm of protest from some of the doctors over defects that were more apparent than real. True, it falls short of the ideal and seems to work hardship sometimes on worthy members of the profession. It is impossible to correlate the views of all into one concrete law. Only two examinations are held yearly, and no temporary permits to practice are granted so that only at the January and June meetings can the examination be taken.

*Read before the meeting of the Tri-State District Medical Society at Rockford, Sept., 1919.

Applicants for reciprocal license may apply at any time, and as the reciprocity committee meets on call it is possible to favor these applications as to time. In the days when temporary permits were granted, doctors came into the state, became established in practice, bought property and settled their families, and when it was found that these men could not qualify, it was a double hardship to compel them to sell out and move.

This happened in a few instances, and led to the rule that temporary permits would not be granted under any circumstances. As few doctors are now coming up for examination except those just graduating, the winter and summer sessions meet these requirements very well. We have removed the restrictions as to reciprocity from those who have been commissioned in the Army, Navy and Public Health service, and admit to reciprocity all honorably discharged commissioned officers of these services, if they graduated from accredited schools. This has not been an unmixed blessing for some who could not get into our state before, on account of the low grade of their schools are since the war trying to come in under this reciprocal waiver.

We have a provision for itinerants, who by the way cannot be reached in any other manner, and we issue an itinerant license at \$250.00 per year, this keeping them under surveillance of the Board. We say to the Christian Scientists in substance "The Lord be with you" for we can't, and to the Chiropractor: "You must keep before the public a placard proclaiming that you are not licensed in Wisconsin," and we patiently wait, knowing well that these fads will run their course and that something else will come along to tickle the credulity of the public.

It is evident that we do not possess a model medical practice act in our State and whether or not it is possible to get one through our State Legislature, is a question on which we are divided, and we hesitate about trying to change it, for fear of getting something worse.

With all the short cut people deluging our law making bodies with claims for recognition and the propaganda against the so-called Medical Trust, some feel that we should be satisfied with what we have while still others maintain that we should permit the wiping of all medical laws from the statute books rather than even mention the quacks negatively. The middle course has prevailed in Wisconsin and time only will tell if we

are right. The principal object of our law is to protect the public and yet the entire expense of administering the law is borne by the medical profession and its subsidiary branches which are licensed or registered by the State Board of Medical Examiners. No funds are provided except those that come in as fees through the Board. In other words, the medical profession is permitted to protect the health and lives of the people if it will pay its own expenses. The powers of the Board are limited when it comes to regulating the conduct of its licentiates, and few seem to know that it is only within the province of the courts to deal with the wrong doer. Our legal department is ever ready to co-operate with the local authorities, but it is generally hard to get evidence in sufficient shape and form for legal action, and even then juries convict these people so rarely that it does not seem worth while to bring action against them.

Wisconsin reciprocates with her neighboring states on an equitable basis, and it is seldom that satisfactory arrangements cannot be made for residents of one state to obtain a license in a neighboring state, but only those who have been licensed after examination can be licensed by reciprocity in our State.

We find difficulty sometimes in getting the older practitioners to take the examination which is required of all who cannot obtain license by reciprocity. Some feel that it is beneath their dignity to submit to an examination when they have occupied high places in the profession elsewhere, and others fear the examination after having been out of school so long. To the latter a liberal allowance is made for years of practice and the reputable and ordinarily qualified practitioner need not fear our examination.

Before writing this paper, seventy-five letters were sent out to physicians along the Wisconsin borders, asking what difficulties, if any, they had met with in practicing across the state line. Many interesting replies were received. Very few of them revealed a desire for protection from competition with brother physicians across the border. Some were licensed in both states and many were not. Many were content with conditions as they are. One letter, though pessimistic in tone, revealed what is evidently in the minds of some of these border physicians, and is as follows:

Regarding your request as to confictions with medical laws of adjacent states, will say that I went to considerable expense and trouble to fit myself to practice medicine in Wisconsin, and later on I had to go to further expense and trouble to comply with the constantly increasing requirements of Minnesota. I paid my \$50.00 'reciprocity' fee, etc., and now a new man comes into town and goes over into Minnesota territory among my patients, without any license and without any extra expense and cuts the already paltry fees. Generally speaking, the Stillwater men come over here, and we go over there without friction, but you have to register to have any standing and to collect.

My observation of medical laws in general tends to give me a Bolshevistic impulse. They work well for the quacks, cheap skates and Christian Scientists, to say nothing of the Chiropractors, who display "Not licensed" signs as their authority to practice, these fellows either subvert the law or in some way get by it, while the legitimate and ethical student of medicine has to comply or does so at least to remain in good standing.

Like many another fellow, I have wished to go West to practice, but after complying with all the requirements of our State Board, and with all the laws of common sense and decency, I would still have to "take the Board" in Washington, Idaho or Montana. No other man seeking to make a livelihood in this great incongruous jumble of states, except perhaps the dentist or horse doctor, has to go through such a hold-up, after he is shown to be qualified in his home state. He may go run a store, a creamery (and with it a laboratory for disease germs) sell cars or cigars, or what not, and pay no license for coming from another state. At least if he pays any, it is small. Lawyers have no trouble passing "The Bar" of any state they wish to inhabit.

From Marinette, Wisconsin, comes this message, after inquiries among the doctors there. "The men are unanimous in their declaration that the state laws have in no way interfered with the legitimate practice of medicine. Very few men in this city, or its sister, Menominee, hold a license in a neighboring state."

One man who has practiced on the Minnesota border for thirty-seven years has had no trouble. From Iowa comes the message: "I have practiced medicine in this place for 49 years, and not during that entire period, have I found by experience or observation that the State Medical laws interfere with the practice of medicine beyond the state border."

From Minnesota: "I have practiced here for 35 years and all of that time, have been called frequently into Wisconsin opposite here, and have

never been questioned or molested in this practice."

A Wisconsin man says: "What is right in Wisconsin ought not to be a crime in Minnesota."

One calls attention to the need of uniform regulation regarding the reporting of births, deaths, contagious diseases, and quarantine. One has practiced on the border since 1874, and has not been disturbed in his practice by law. One says he hardly thinks of going into Wisconsin as going out of the state.

One local experience from Michigan, is to this effect, "that there has been no hindrance nor interference in any way by the neighboring profession, or the civic authorities where eligibility was not in question." And the reverse is true regarding Wisconsin practitioners who cross our boundary and offer this as a suggestion: "To all reputable practitioners of regular medicine, practicing in towns or communities at or near our borders give free permission for entry if they abide by your laws, ethical and legal." Marinette and Menominee report free interchange of services without any friction, and very few are licensed in the opposite state.

From Illinois comes this statement: "No one has interfered with my work across the line in Wisconsin, and I have been under the impression that the Wisconsin law contained a clause permitting such practice."

An Iowa physician says: "I should have registered in your state years ago, when I might have done so, but neglected it. I have long been of the opinion that a medical degree should not be confined by state lines."

From Beloit comes the message: "The laws are very fair, and I do not think work any hardship."

A brickbat that comes from Minnesota:

I believe that there ought to be a reciprocity between all the states if they have reasonably high standards for the issuance of medical license. Generally speaking, the flourishing of the quack business does not appear to hurt my business noticeably as the people who patronize them probably would not doctor with me anyway, at least for the real or alleged ailments for which they consult these charlatans. However, whether it is because of inadequate Wisconsin laws or because they allow these healers to get so large a following before they attempt to prosecute them in Wisconsin, it becomes practically impossible to get them convicted. I have known at least two notorious quacks who had to get out of Minnesota, but practiced with impunity in Wisconsin, if indeed they are not doing so yet. Sometimes

they locate just east of the St. Croix, or near it, and people have been known to go by wholesale from Stillwater over the St. Croix bridge to see alleged doctors who were not allowed to practice in Minnesota.

There are a number of other letters which make interesting reading, but to quote them here would make the paper unduly long. They show that the doctors along the state border are practicing without due regard to the state laws, but there is no evidence that they are doing this in wilful violation of the law, and are not exceeding their moral rights.

By these letters and from many other sources, we are admonished again and again that a license in one state should be good in any other state, and that there should be some tribunal before which one could qualify once for all. Various agencies are at work to bring this about and the National Board of Medical Examiners has been the outgrowth of this demand. It seems, however, that this Board has no legal recognition in the states and consequently its diplomas cannot be recognized. We feel that this will be brought about in the near future, and we should bend our energies in this direction.

In order to obviate the necessity of having to take the examination at some future time when they have become rusty on some of the subjects, we frequently find men taking the examinations in a number of states to any of which they may want to move in the future. I, in common with the rest of the profession, hope the day is not far distant when one license will enable a doctor to practice in any state of the union, and for a general awakening of the people to the fact that it is only the fully qualified physician who is to be entrusted with the lives and the health of the people, and that only from this source has ever come any good or lasting benefit to humanity.

In the meantime, the parasites hang on and clamor for recognition from our law making bodies and they present a solid front.

In Wisconsin the Osteopaths are just now invoking the aid of the courts to compel the board to admit them to the examination in surgery, which means that, if successful, there is no barrier to their having the full rights and privileges of the medical profession. It is incumbent on the whole medical profession to rise in their might and prevent the Osteopaths from being admitted to full membership

in medicine or surgery until they have taken the full course prescribed for the regular medical profession and when they do, we are confident they will want to be real doctors and not short course men.

There are those now hearing this paper who when contemplating the efforts the profession has made and is making for the protection of the people against the imposters, who are continually preying upon them, have often asked—What's the use?

Some say in their haste that we should throw all medical laws to the winds and not try to regulate the healing art, but no one will insist upon this after sober reflection. No true disciple of Aesculapius can get away from the altruistic bond which holds him to his duty to his fellowmen and becomes stronger as he grows older in the practice of real medical art in spite of the pessimism which at times comes over us all, when we experience some of the many disagreeable phases of our work and associations.

To do away with the laws regulating the practice of medicine, thus giving free hand to the quack and charlatan, would reverse all incentive to real scientific medical work, and few men of scientific attainment would want to be in a profession among such associates. Medical science would soon drop back a century or more and we must not forget what has been accomplished during the period past half century.

The generation coming has inherited a priceless boon from the one now passing, and as we pass along our achievements and those of our colleagues and predecessors, let us see to it that mankind shall be assured of a continuance of the blessings true medical science has conferred upon it. We cannot do this better than by establishing uniform and high standards of medical education and then grant authority to practice which will be equally honored in all the states.

DISCUSSION

DR. CHARLES F. WAHRNER (Ft. Madison, Iowa): *Mr. Chairman*, I would like to offer a few thoughts on the subject. You remember what we did in 1776. It was reiterated in 1812, and when Jackson said in 1830 that "by the eternal, the Union must and shall be preserved. Send for General Scott," we did it again. This same principle of United America not consisting of states but being one country, that America *is* and not *are*, was again forever fixed in 1861. Here lately, while we got hysterical and began frothing at the mouth, still the idea of Americanism was

wonderfully emphasized. Good for the emphasis! I want to place the same kind of emphasis on something I want to say.

I am for universal reciprocity. A man who is good enough to practice medicine in the State of Iowa is good enough to practice it in Wisconsin, Illinois and any other of the forty-eight states.

A great many states have lain back complacently on the fact that they have the oldest medical colleges, that, by the way, have had to be produced up by the American Medical Association to come up to their proper class. Those of you who are not acquainted with this will find it in the Journals; you will see how they have gradually stepped from Class C to B and from B to A.

There is a shortage of doctors all over the United States. In these days of automobiles and telephones and telegraphs and flying machines, it becomes almost impossible to get a doctor of any kind to locate in the smaller towns and at the cross-roads where they are still needed, because people are sick there as well as anywhere else. We can't send to the metropolitan cities to get help for these people every time we need it. I am in for medical education of the highest kind, but I believe that when a man is able to practice in one state of the Union, he should be able to practice in every state of the Union. I don't believe in states rights; I don't believe in boundaries for science. Science is universal and medical science is especially so all over the world.

I was present at a meeting of the American Medical Association, about twenty years ago, when they were talking about a certain man and questioning his authority. Somebody got up and said "Nicholas Senn says he is all right." And some wag got up and said, "Who in the hell is Nicholas Senn?"

"Why, he's from Chicago."

"Where is Chicago?" came the retort.

Isn't that enough?

GUNSHOT WOUNDS OF THE CHEST—INDICATIONS FOR OPERATION—TECHNIQUE*

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The statistics covering the subject of gunshot wounds of the chest are as yet very incomplete, and those quoted below are only tentative. There were between 3 and 4 per cent. gunshot wounds of the chest (lung), 5 to 10 per cent. being of the chest wall, associated with fracture of the rib, scapula or clavicle. The most serious, of course, were those combined wounds of the chest and abdomen with penetration of the liver, spleen or stomach, and finding lodgement in the lung

base after penetrating the diaphragm. This class constitutes 3 to 4 per cent of chest wounds.

This latter class were invariably suffering from profound shock and unless some urgent indication was present were not operated upon until a more accurate diagnosis and x-ray localization were made. The hemorrhagic cases or those with peritonitis or evidence of leakage were operated upon at once. I was particularly impressed and greatly surprised to see the large number of recoveries in these cases where the expectant treatment was employed until some positive indication warranted operation. Pneumothorax was very troublesome and was present in about 25 per cent. of those cases in which the wound of entrance was large or open, or if infection supervened. The cardinal symptoms of chest wounds are: 1. *Shock*, profound and out of proportion to the extent of injury; 2, *Hemorrhage*. Lung wounds are of necessity prone to continuous bleeding, more or less, for a period of 48 to 72 hours, depending upon the location, nature and extent of the wound and whether or not infection is present.

3. *Cyanosis*. I wish to make the statement here that all penetrating wounds of the chest show cyanosis, slight or marked, at some time following the injury either immediate or remote. There is a slight cyanosis of the lips in all cases and pallor is marked whether there has been a great loss of blood or not.

Dyspnea. This is a very marked symptom of chest wounds and is present in all cases in slight or marked degree, depending upon the amount of hemothorax or secondary inflammatory fluid in the pleural cavity. The breathing oftentimes is extremely labored and the muscles of the neck and alae of the nose are very prominent.

Restlessness is marked and air hunger quite evident. The patient tosses about on the bed constantly, a sedative not always relieving to a great extent.

Hemothorax. In a large per cent. of chest cases this symptom is present, and I might add it is present in all cases whether alone or in combination with inflammatory effusion (Pleural). When fluid is present with marked cyanosis and dyspnea, an aspiration or drainage (Thoracotomy) of this blood or fluid should be considered.

Temperature. This is a constant symptom in

*Read before Douglas Park Branch of the Chicago Medical Society, Oct., 1919.

all gunshot wounds of the chest, with or without infection. The degree of temperature depends upon the type of infection present; and is more or less continuous. The first 48 to 72 hours the fever may reach 103 degrees F., though it is usually around 101 to 102. If no untoward complication supervenes at the end of a week or ten days, the fever begins a decline of 2 or 3 points and remains around 99.8 to 100.8 for a period of three weeks or more. These patients carry temperature several weeks after all other symptoms have disappeared.

Pulse. The pulse the first 72 hours is invariably rapid and weak, in some cases assuming a thready character. Irregularity is a marked feature in most cases of severe hemorrhage or foreign body near the root of the lung. The rate is between 120 and 140, reaching 160 in some instances upon the slightest exertion. A disproportion between the pulse and temperature is usually a constant feature. After a period of several weeks the temperature may be 99.8 and pulse 120 which, upon exertion, reaches 140 per minute. These cases usually become markedly emaciated especially if an active infection has been present.

Pneumonia. Primarily this is of a traumatic type, but subsequently in some cases becomes a streptococcus or a pneumo-streptococcus infection, especially is this true of the apices and bases. An independent pneumonia is to be suspected in all of these cases because of the exposure in lying on wet or cold ground, both before and after injury. During the Argonne offensive a large per cent. of patients entering hospitals had some form of bronchitis.

Cough and Hemoptysis. This depends upon the degree of injury, its location, and whether or not a true pneumonia of the lobar type is present. It is usually dry, hacking, and incessant, non-productive in type if not complicated by a primary bronchitis. If the course of the missile has penetrated a bronchus the cough will be violent, spasmodic, productive and containing blood. The amount of blood varies with the location of the wound, some of these cases expectorating blood for days; others have violent hemoptysis to almost complete exsanguination.

Complications: Hemothorax (simple or infected), pulmonary abscess, late hemoptysis,

empyema, unresolved pneumonia, delayed re-expansion.

Indications for Operation:

1. Extensive hemothorax (simple or infected). This indication may be relative or absolute. The relative indications are, slight dyspnea, comparatively large effusions of pleuritic exudate in association with slight hemothorax. After a time, if the patient's condition does not improve following aspiration, it is conservative surgery to consider operation. Thoracotomy, drainage, separation of the pleural adhesions and the insertion of a glass or rubber tube may be all that may be necessary. The reinjection of aspirated fluid in the secondary effusions is of some benefit in some cases either alone or combined with solution of formalin 2 to 10 per cent. in glycerine.

2. A large hemothorax with severe dyspnea and a rapid pulse associated with cyanosis should constitute a positive indication for immediate interference.

3. Empyema, or collections of pus in the lung borders or the lung bases, should be operated upon and drained as soon as discovered, or as soon as the patient's condition will permit it. Patients with large collections of chest fluid with daily temperature should have a daily aspiration to ascertain bacteriologically if infection is present. Thoracotomy with rib resection will be necessary in this condition if the hemothorax is infected, and if the lung is approached it is best done under general anesthesia.

4. Severe, repeated, or continuous hemoptysis. This condition requires a great deal of conservatism combined with a careful study of the patient's general condition in each and every individual case. Hemoptysis in some instances may be largely controlled by strapping the chest tightly with adhesive tape completely surrounding the body. This is especially true of wounds at the bases, compressing the diaphragm and preventing its complete descent. This tends to immobilize the lung and prevent further hemorrhage. If the patient's condition warrants interference a trap door incision is made and the knife cautery used to control hemorrhage or the wound is packed with plain or cyanide gauze and drainage instituted. This gauze packing usually determines adhesions of the lung to the chest wall thereby facilitating a secondary pneumotomy

if required. Iodoform gauze tends to cause incessant cough and sometimes high temperature, and for this reason should not be used. If the hemoptysis seems to follow paroxysms of coughing opiates should be freely administered to the point of control. The introduction of sutures into lung tissue tends to increase cough and consequently hemoptysis.

5. Pain, continuous or severe, and associated with persistent temperature would indicate a severe reaction to the presence of a foreign body and constitutes an indication for removal, and the cautery operation has decreased the mortality to such an extent that one need not hesitate in resorting to operation.

Bacteriology. The streptococcus hemolyticus, the staphylococcus albus and aureus and the pneumococcus of types 1 and 2 were most frequently the predominant organisms. The vibrio septique of Pasteur, B. Welchii and B. perfringens were found in a few cases in conjunction with the streptococcus hemolyticus.

Treatment, Indications for.

Shock. This is best treated with morphin, grain $\frac{1}{8}$ to $\frac{1}{2}$ hypodermatically, external heat to extremities and abdomen and patient kept absolutely quiet; an attendant if necessary to keep well covered. NaCl 0.7 per cent. solution with glucose 5 per cent. solution by the colon or intravenously, 500-1,000 cc in the vein or 250 cc repeated by colon. Subcutaneous saline is inefficacious and should be discarded. The scientific man will readily see the fallacy of strychnine and digitalis. Transfusion of blood is indicated in some cases of shock or hemorrhage not responding to ordinary measures, but one has not time in all cases if he is to benefit the patient by treatment.

Hemorrhage. The treatment of hemorrhage is that of shock except the patient may be placed in semi-Fowler position. Morphin and atropine hypodermatically are here supreme. If hemothorax is severe and produces dyspnea, aspiration or thoracotomy should be performed.

Rib Fracture. This is best treated by adhesive strapping, immobilizing the affected side. Every patient should have a pneumonia jacket of some material as soon as possible after arrival in hospital. I am quite positive that this measure

has decreased the incidence of pneumonia, various opinions to the contrary notwithstanding.

Removal of Foreign Body. This may be attempted by the one or two stage methods. Personally I see no advantage in the two stage operation except thoracotomy and packing the wound may determine adhesions of the lung to the chest wall, and this is desirable from the standpoint of prevention of soiling the pleural cavity. The advantages of the one stage operation are: First, the patient who is badly in need of foreign body removal for persistent hemorrhage or infection would not survive a delay of two or three days between operations; second, by rapid operating and localization of foreign body by x-ray there is no need for submitting a patient to the pain, discomfort, and shock of a second operation; third, reduction of hospitalization, permitting patients to be discharged earlier, this being an important incident in convalescence.

Anesthesia. Gas-oxygen or gas-ether are the anesthetics of choice if the gas is obtainable. The patient is first anesthetized by gas followed by ether to light anesthesia, anesthetic being removed as lung is approached. When the lung is incised gas alone under pressure sometimes prevents lung collapse.

Operation. Technique. Trap-door incision.

The skin incision should be 10 to 12 cm in width and at least 15 cm in length. It should be U-shaped, the base downward. Location of incision should be anywhere on the lateral chest wall, inclining anteriorly or posteriorly that will give the nearest approach to the foreign body. The primary incision should include skin, fascia and muscles down to the ribs. The aperture in the ribs should be 8 to 10 cm in length and at least 10 cm wide, the base of the flap upward. Bone cutting forceps should be used and as many ribs fractured as necessary, usually two or three being sufficient, and rib division should be somewhat smaller than the primary incision. Now we have two separate flaps, their bases in opposite directions (Trap-door). The pleura is incised with the knife cautery, the visceral being stitched to parietal layer and held with retractors. Foreign body is located by palpation if possible, or lung incised by the knife cautery. The incision should be well defined in the direction of the foreign body. If the portion of

the lung to be incised is collapsed it facilitates the operation and decreases the time of operation to a considerable extent. Let me add, parenthetically, that it is well to have your x-ray man in consultation at operation. The lung incision is gently palpated with the index finger of left hand, while the right contains a blunt ovum forcep or scoop for removal of the missile when located. The knife cautery has controlled hemorrhage in the approach to such an extent that sutures are rarely necessary except in dividing one of the larger blood vessels. Suture of lung tissue adds trauma and incidentally traumatic pneumonia, and are only used when absolutely necessary. The operation is completed, hemorrhage controlled, wound dry, a small piece of folded rubber tissue is placed in the wound or the lung permitted to collapse in the incision line. The pleura may be stitched to chest wall or if comparatively clean may be closed with fine catgut; silk or silk worm for the skin, a tight dressing, adhesive straps, and a pneumonia jacket. The patient is placed in Fowler's position, slightly on affected side, and is given plenty of morphin and a nourishing diet. The pre-operative use of blood transfusion has apparently given better results than post-operatively. It may be repeated two or three times. NaCl and 5 per cent. glucose by proctoclysis is well tolerated. The post-operative complications are secondary abscess, post-operative pneumonia, chronic fistulae, delayed re-expansion, and pneumothorax. Post-operative fistulae are sometimes troublesome and convalescence is greatly prolonged thereby. They are best treated by nourishing food, breathing exercises, abundance of fresh air and local measures such as acriflavine 1-2000, methylviolet 1-2000 in a sterile vaseline or oil base, or an ointment consisting of phenol 1 per cent., bismuth 5 per cent., in sterile vaseline. Dichloramine T is useful and has closed some cases. This is to be forced into the fistulous opening with a large metal syringe. The incidence of fistulae is materially decreased by the use of the knife cautery instead of cutting instruments and sutures.

Delayed re-expansion is best treated by breathing exercises, forced inspiration and expiration by the 2 bottle syphon method. Moderate exercise, some preparation of iron by mouth and rigid hygienic measures are of great importance

during convalescence. Some protection to the chest wall, I believe, decreases the incidence of bronchitis and bronchopneumonia, to which convalescent chest cases are especially subject.

Personally I believe the knife cautery has created a wider field in pulmonary surgery, decreasing as it does fistulae, shock, post-operative pneumonia, hemorrhage, and a greatly decreased mortality.

25 East Washington Street.

ENURESIS IN THE ADULT FEMALE. THE REPORT OF A FEW INTEREST- ING CASES AND HOW THEY WERE TREATED SURGICALLY.

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ELGIN, ILL.

It would be of much interest to consider the subject of enuresis or incontinence very extensively from the standpoint of etiology and treatment. But the concrete review of the causation and management of this tantalizing malady would make the former as voluminous as it would make the latter bewildering. It seems there are but few pathological conditions omitted in naming the guilty factors in this disturber of social happiness and mental tranquillity.

Heredity, the neuroses, anatomical anomalies, deformity, foreign bodies, pathology from adenoids to pinworms, psychology and traumatism, any one, or several together might be the cause of urinary incontinence.

"Incontinence," says one author, "is due either to contraction of the detruser (longitudinal) muscle layer of the bladder, or to relaxation or paralysis of the sphincters. If both are paralyzed it leads to retention plus incontinence, manifested by distention of the bladder with constant dribbling."

Normally, as is well known, the voiding of urine is a voluntary act, although at times it is influenced by mental coercive stimuli; that is to say, a person may empty the bladder without any physical stimulus creating the desire to do so, or again, the desire may become intense by powerful impulses up to a certain point, and if micturition does not take place before this period is reached, the desire to void urine is lost only to be replaced by a sense of fullness in the hypogastrium and later pain from distention and all volition to empty the bladder is useless.

Briefly, then, incontinence, either conscious or unconscious, is due to closing off of impulses normally received and sent from the mechanism controlling micturition.

Two great groups of conditions encompass all the known causes and as classified by Butler, are essentially as follows:

1. Lesions or conditions which annul conscious cerebral activity: All forms of coma, idiocy, some varieties of insanity, sunstroke, shock; poisons of certain infectious diseases, such as diphtheria, typhoid fever, etc.

2. Lesions that interfere with conduction to and from the vesical centers in the sacral segments; injuries, tumors of the cord; intra-spinal hemorrhage; transverse myelitis; spinal meningitis; locomotor ataxia; reflex excitation of the nervous mechanism; general weakness of the nervous system; reflex irritation due to dentition; certain poisons as hydrocyanic acid; retention due to prostatic hypertrophy (which, of course, does not apply here). Fuchs and Gratz in their recent experience among large numbers of soldiers, found contracture of the urinary viscus was due to injury, getting chilled, or to infectious diseases, and that, therefore, "the idea that paralysis of the bladder is always the cause of incontinence, must be abandoned." This is in harmony with the group citation of the etiology already set forth.

Inasmuch as our subject confines us to the study of enuresis in the female and particularly in the virgin I wish to review in a measure a picture of the mental state of the average adult female still in that state of modest blissful virginity, afflicted with urinary incontinence.

The patient gradually acquires a mental attitude as one beclouded with a relentless, tormenting, though secret, fact. She is not like other women with whom she can not associate. She dreads to stay long away from home. She does not want to stay over night at the home of friends. She would rather stay awake all night for fear she would disgrace herself by the nocturnal mishap. After a few sad experiences, she avoids the theater, the church, and the dance hall. Later she avoids all public meeting places for fear of becoming unpleasantly conspicuous. Suspicion engenders in her mind the thought that others believe she herself is the author of her social ostracism. She is a pitiable object,

and although she naturally craves the solace of sympathetic friends, she conceals her embarrassment from all save her immediate family or most intimate friend, if she has any. Verily, she is a social Pariah.

When a case of urinary incontinence presents itself to the surgeon it is obvious that the utmost care be taken in diagnosing the exact cause, if that be at all possible, and to advise and apply the treatment best calculated to overcome an unbearable condition. Some cases present conditions that place them on the border line of surgical and non-surgical treatment. Time and space forbid consideration of proper selection of treatment here. In passing, permit me to state, that while reading much of the literature bearing on our subject it is not a source of pride to note the apparent numerical strength and potential weakness reflected in the use of over 76 drugs, and more than 29 methods other than surgery and drugs, in the treatment of enuresis. In the main the treatment as found described in the literature, divides itself into the following methods: Correction of habit by training, changing of environment, mechanical appliances, electricity, cauterization, epidural and perineal injections, periurethral injections, drugs, physical training, massage, suggestion, surgery. I desire to report two very interesting cases of incontinence, and the surgical treatment applied. One a young virgin female who acquired enuresis after her adolescent period, and the other a woman past middle age who suffered from incontinence nearly twenty years.

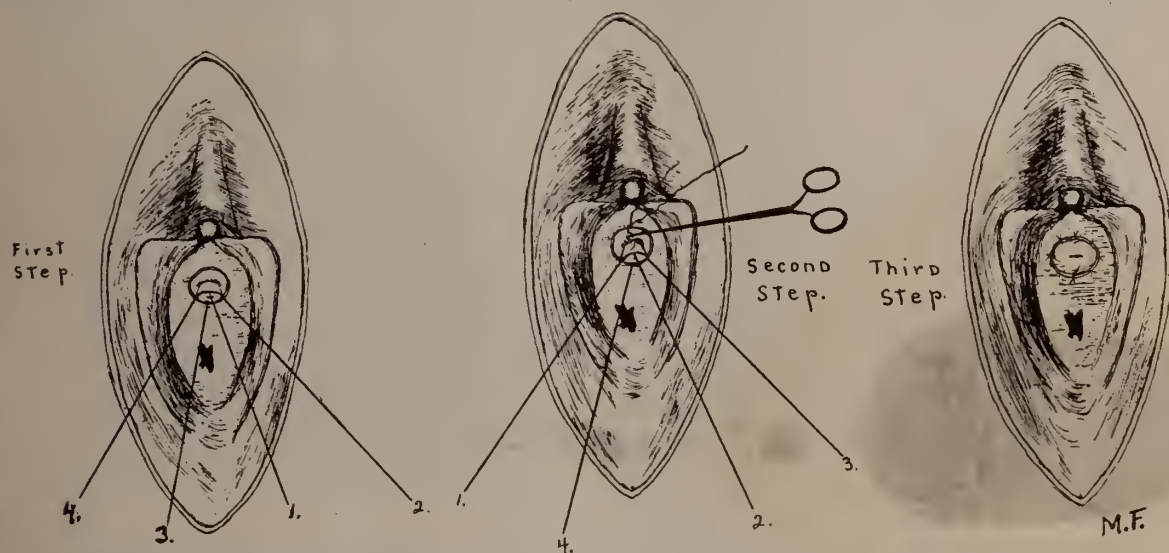
Case 1. Miss C., aged 20 years. Family history—Parents, both born in Sweden, are both living and well. One brother died at age of eleven years, fifteen years ago, from basilar, tubercular meningitis. One sister died at age of ten years, about nine years ago, from tubercular meningitis following tuberculosis of the spine. One sister a few years older than the patient has in recent years passed through a storm period of neurasthenia so that institutional treatment was necessary, but at present she enjoys good health and fills a very responsible position.

Personal history—Always a healthy child, bright in schoolwork; passed through the grades and the high school. She began her menses when thirteen years of age, and never had any menstrual disorder. At about the sixteenth year she began to have incontinence of urine which grew worse for some weeks. She lost control both by day and by night. While awake she was conscious of urine escaping. At times she felt as if she would, with the most desperate effort, gain partial control, but only disappointment

crowned her attempt to be normal. Exertion such as walking up stairs, coughing or sneezing, or any emotional provocation resulting in laughing or crying would cause her great embarrassment. Bed wetting became a common occurrence. Many remedies, and many sources of promised help were appealed to. She had tried, as near as could be learned, probably every method, outside of surgery, except epidural injections and paraffin injections. Her condition remained the same. She was discouraged. Her disposition had changed. In her former days she was vivacious, and had an interest in things that youth delights in. Now she would avoid all public places, and stay mostly at home. She cried much but worried more. She was losing weight and had periods of depression when appetite for food was lost. This is her story. More could truthfully be said, but this

normal salt post rectal, and irritating urethral applications. On March 27, 1914, I performed on her the simple operation of freeing the urethra through the tunica propria approximately five-eighths of an inch deep, gave the meatus urinarius externus one-half turn and stitched with interrupted fine silkworm. Four hours after the operation the patient was catheterized and every eight hours after for four days. She was now able to void urine, with but slight discomfort. The urine was kept bland. She left the hospital at the end of two weeks with fairly good control over the urinary mechanism. Nine months passed, and the patient was so encouraged and anxious to have a second operation, calculated to make the surgical procedure 100 per cent. successful.

On January 25, 1915, I performed the second operation at Sherman Hospital. Examining the urethra



1. Schematic: First step, urethra freed subcutaneous tunica propria and four traction sutures placed. Second step, urethra turned on its long axis $\frac{3}{4}$ turn, urethra drawn downward, first deep suture applied, in anterior quadrant. The process repeated in other three quadrants. The third step, closure of peripheral incision.

is sufficient to show her frame of mind which is so typical and so important in this class of cases.

Physical examination—A well-built, blond female, apparently 21 years old. Skin loose, pale except on both cheeks. A very luxurious growth of hair on head; fingernails showed malnutrition, but the teeth were in excellent condition. Eyes, throat, and nose were negative. Hearing very acute in both ears. Marked was the lack of muscular tone of the body and limbs. All reflexes normal. Breathing shallow about 20 a minute; heart beat 76, no murmurs, irritable. Small rales intrascapular at the end of inspiration; a slight concealed or suppressed cough; afternoon temperature 99. Abdomen negative and cystoscopy revealed nothing abnormal. Repeated examinations of the urine were negative. The blood tested, stained and examined showed a deficiency in hemoglobin, otherwise negative; tests for syphilis negative. Believing that my patient was tubercular, and that her general weakness of the nervous system was caused by that infection, I instituted the conventional forms of treatment, and locally tried some injections of

at this time it was found that the former twist of the urethra had apparently unraveled itself toward the external meatus forming a ring approximately three-eighths of an inch thick. The urethra was freed as in the previous operation a three-fourth turn made and stitched as far back as possible with four No. "0" plain catgut, in the new position the urethra now had. The external closure was made as in the previous operation. Patient was catheterized four hours later, and every six hours thereafter for a few days; then the intervals were lengthened, until on the sixth the patient was able to urinate in the normal way. After two weeks in bed the patient left the hospital.

She had good control over the urinary mechanism, and she improved at once, physically and particularly in her mental disposition. She goes where she pleases, and can stay unmolested through any social performance, and this condition obtains to this day, now over four years' standing. This could be termed a minor operation with a major result. I have more recently in well selected cases performed this operation, with promising results, but the time is too short to attach

the proper value of the procedure. This operation is not of my own design—except possibly in technique of stitching.

Of course, this treatment, as well as the various injections are calculated, as a rule, to produce a symptomatic cure, and often do not, primarily effect the fundamental cause of incontinence, but do benefit the mental and physical condition, by removing a dysconsolate syndrome.

Case 2. The following case may not conform to the picture of true enuresis, but nevertheless is essentially one of incontinence, or rather it was handled as such, and therefore I report it here.

Family history—Parents both died of pneumonia at the age of 65. One brother living and well. Three sisters; one died at age of two years, of pneumonia; one sister died at age of 52, in 1918 from peritonitis following appendicitis; one sister living and well, age 43.

Personal history—Mrs. J. W., aged 55, married at the age of 28 years. This union resulted in five children all living and well. The oldest child is 26 and the youngest 14 years old.

Seven years after marriage the patient began have incontinence of urine, which periodically though gradually became more pronounced. Later there was occasionally hematuria with some bladder irritation. This condition, alternating for better and for worse, persisted during a period of ten years. During this time she had, at times been treated medically for cystitis and incontinence. The urine had repeatedly been examined and nothing abnormal had been found. This is the patient's statement and must be accepted with due allowance. In November, 1908, she consulted a surgeon of national reputation, who made a cystoscopic examination, discovered vesical stones; did a suprapubic cystotomy a few months later, removing the stone or stones. A number of stones passed per urethram after the operation. The hematuria, together with other debris, disappeared for several weeks, also the tantalizing discomfort in some measure passed away. But she was obliged to wear a napkin constantly and felt much the same as before the cystotomy. For another period of over nine years she was constantly annoyed by the escape of urine and at times had a sensation of irritation in the bladder,—“a feeling of wanting to urinate and at the same time had no control of the urine” as the patient states it. She was easily fatigued and walking caused her much discomfort. Her sleep was not much disturbed and nocturnal incontinence not marked. In the Summer of 1918 her condition became much aggravated. August 29, 1918, she came to my office. Her chief complaint was the loss of urinary control, a burning sensation in the bladder region, and frequent desire to urinate; but when attempt was made the bladder invariably seemed empty, or only a few drops would pass. She had at times noticed blood in the urine. Her general physical condition was poor. She had lost considerable in weight. Elimination was fair, and the appetite alternately

fair and poor. The urine was heavy, muddy, and contained considerable blood. The cystoscope showed a much injected lining in the bladder, particularly marked to the right and above the apex of the trigone. There were many paler regions compared to the deep injected areas elsewhere. The bladder was small. No calculus was seen, and cystoscopic examinations by others was likewise negative as to stone. Rest in bed and hot antiseptic lavage gave considerable relief. I placed a steel catheter in the bladder and with a stethoscope attached gently palpated the bladder surface and discovered the offender. On October 14, 1918, I did a suprapubic cystotomy, and found a stone imbedded to the right and a little above the apex of the trigone, in a pocket of its own making. It was covered with blood-stained slime and debris. The calculus was crowding on the meatus urinarius internus. Drainage was established after the stone was removed. Urinary antiseptics were ad-



Fig. 2. Schematic, showing inside of the bladder as it looked cystoscopically. Note discoloration near apex of trigone and up above meatus urinarius internus.

ministered for a few days. The patient was put in the Fowler position. On the fifth day the drains were removed. Patient could now void urine in a normal manner and had complete control which has remained so to the present time. She is at this writing working every day, gained in weight, feeling fine.

HUBBARD BUILDING

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DISCUSSION

DR. A. L. MANN (Elgin): It seems too bad to let this paper go without at any rate thanking the author for presenting the subject and especially for presenting it in such a lucid manner. The operation is one of comparative rarity. Few of us perhaps have performed it. I have not, but I can readily see the advantage of the technique in carefully selected cases.

I want to ask the author of the paper for a few pointers in regard to the diagnosis of the local condition which induced him to submit the case for surgical treatment.

DR. SCHURMEIER: I did not mean to frighten anybody by presenting this paper. I know it is a little out of the ordinary in the manner of procedure.

The question that Dr. Mann asked I will answer in

you may free the urethra and give it a twist. That is all of the description that I can remember. I turned this over in my mind and I proposed this to the patient. I said, "If you will submit yourself to this operation, I will try it."

When I tried the first operation it was a partial success. She was very much encouraged, and then at the second operation, mind you, I discovered what had happened and for that reason I instituted that particular stitch. I think it is scientifically correct. I think it is more correct than a paraffin injection because we have not a foreign body.

In case of childbirth, we have natural tissue and not a foreign body which would be crushed out of place and has no faculty to bring itself back into position. It may become a source of irritation. It was a form of quackery. I have taken out a number of them, as most of you no doubt have.

These reasons, all taken together, are the reasons why I performed this operation on this patient, and it was not to my sorrow.

This is the point that should be remembered: In



Fig. 3. Calculus removed from case 2.

this way: In the first place, as I stated, this patient had gone through the gamut, the gattling-gun, as we say, of medicines. Many practitioners had treated her, and failure crowned all efforts to establish a symptomatic cure. Then added to that was my own experience. I used a few things which I could not find out as having been tried. For instance, the nitrate of silver. She had had the injection of salt—I mean of cocaine—and other irritating substances, and after trying these things that I thought had not been tried, I came to the conclusion that something else had to be done because this patient was getting desperate.

I was on the verge of having a photograph of this patient made before and after cure, but she asked me not to and in deference to her wishes I didn't. Could I have done that, you would have seen at once the great difference before and after the treatment.

When she said, "Something has got to be done or something is going to happen," I read in that woman's mind a terrible state of affairs. She had worried and she was on the verge of neurasthenia. She was of this type. She had not been before she had incontinence. I studied on this question of what to do and I remembered that many years ago I read an article by a noted urinary surgeon—by the way, he has one of the best modern books on urinary surgery today—where he states that as a final and last resort,

selecting a case to do this operation, you must thoroughly understand your case, you must be sure that you can by this procedure overcome the symptomatic phenomena.

You may not be able to cure your patient from the mental condition if it is due to tuberculosis. I did not cure my patient, but I did remove from her mind a condition which was detrimental and in removing this condition she has improved and I want to say that just while I was working on this paper I had the privilege of being in the home of this patient to see another member of the family and I asked her if she would permit me to examine her chest again. I hadn't done so for nine months and the marked improvement in the respiratory functions of the patient was marvelous. She had gained in weight; her muscles are strong and solid. She enjoys a normal life; she has perfect control of the sphincter which, of course, was the main object of this operation.

In diagnosing the stone in the bladder of the second case, I recalled an old trick that Nicholas Senn told us about when I was still on the benches—that the senses of the ear and the touch and the eyes are all alike. If you cultivate them right, you can have eyes on your fingers, you can have eyes in your ears.

I took an ordinary stethoscope and took a rubber

cap which I put over the bell of the stethoscope, and I pushed the catheter in there and with my left hand I palpated the wall of the bladder and instantly I came over that stone. There came a grating sound which is familiar to all of us in exploring the bladder.

THE APPLICATION OF PURE COCAIN FOR NASAL ANESTHESIA.*

ALBERT H. ANDREWS, M. D.

CHICAGO

The use of cocain in nasal surgery extends over a period of approximately thirty-five years. It has been during this period that rhinology has made its real progress and anyone who considers the subject soon becomes convinced not only that the use of cocain and real rhinology are co-existent, but that the development of the latter is largely due to the former. This is explained by the ease with which nasal conditions can be investigated under the shrinking and anesthetic effect of the cocain. To the rhinologist of former years the nasal accessory cavities were practically unexplored territory; any attempt to investigate them requiring a general anesthetic, or causing unjustifiable pain. The result was that the patients were allowed to go on suffering from nasal discharges, nasal obstruction and reflex disturbances while the physician used sprays, douches, and other remedies equally inefficient. With the use of cocain accessory cavities are explored as part of the routine examination. Indeed, rhinology has developed to such a degree that it is considered an indication of carelessness or ignorance on the part of the physician if a patient complaining of nasal obstruction, nasal discharge, eye strain, or ear or throat trouble, gets out of his office without being carefully examined under adrenalin shrinking and cocain anesthesia.

It is, however, not the purpose of this paper to go into the details of local anesthesia, but to compare the use of pure powdered or flake cocain with the cocain solutions ordinarily employed.

Nearly twenty years ago my attention was first called to the subject by an article by Dr. Freer. In the light of some unfortunate experiences with the use of two to four per cent. solutions it then seemed that powdered cocain applied to the

nasal mucous membrane would be decidedly dangerous, but after talking with some of my friends who had tried the plan and being assured that their experience indicated that it was as safe as other methods, I began cautiously to apply powdered cocain directly to the nasal mucous membrane. The results were so satisfactory that I soon abandoned the use of solutions and for the past more than a dozen years I have kept no cocain solutions in my office.

The method I have adopted is as follows: First, apply to the part to be anesthetized pencils of cotton saturated with one to five thousand solution of adrenalin. These pencils should be left in position five to eight minutes. After their removal a small pledget of cotton is wound on an applicator and dipped in water or adrenalin solution. The excess of fluid is removed from the pledget by touching it to a towel. The damp pledget is then dipped into the powdered or flake cocain and a small amount of the cocain is rubbed gently over the desired area. Removal of the excess of fluid from the pledget is important, for if the pledget is too wet the fluid will run off into the remaining dry cocain and cause it to crystallize. If profound anesthesia is to be produced a second application can be made after two or three minutes. Ordinarily anesthesia is sufficient for examination or operation to be commenced immediately after the second application.

The advantages claimed for the method are:

1. It is safer than cocain solutions. The contracting effect of the cocain powder upon the blood vessels seems to prevent its absorption. In several thousand anesthsias produced by this method I have yet to see my first case of appreciable constitutional disturbance.

2. The anesthesia is more prompt, more profound, and more lasting. If carefully applied the ordinary operations become painless. The one notable exception is that of opening the antrum of Highmore. Cocain applied to the nasal side of the antral wall does not anesthetize the antral mucous membrane.

3. The small amount of cocain required is advantageous both from the standpoint of safety and economy. From one-fourth to one-half grain of flake cocain is sufficient to anesthetize both sides of the septum for a submucous resection. If strong solutions and saturated pencils are used, several grains will be required.

32 North State Street.

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JANUARY, 1920

Editorial

A HAPPY NEW YEAR

Times change, the old order gives way to the new, the past becomes the present, as the present reaches forward to the future. Cycle succeeds cycle, a never ceasing transition, with but here and there a pause long enough to cast a fleeting glance over the road just traveled. These halting places are all too few, but linger long enough

to let us scan the boundary line that marks the confines of our own human activities.

Christmas and New Year's time brings to all a common thought, that all are brothers, fellow-actors playing their several parts in one small corner of the world's great stage. Each has his part and all work to the same end. Barriers are more reduced at this season of the year than any other. For a few days the mists are dissipated, we see face to face, not through an atmosphere surcharged with business pressure. This is a time when we should all turn backward and stay the fleeting hand of time, if but for a few short minutes, sufficiently long to realize that the victor of tomorrow is he who builds on sure and certain foundations rather than he who rushes heedlessly forward, he knows not where.

All years have their thorns and stony pathways, but the year just closed has been filled with more than the usual vexing problems. To some it was the fiery furnace, to others the inevitable moving to the silent halls of memory. We have seen some of our profession come as others go. Too often we look through the small end of the telescope at those who go and through the long end at those who come. We destroy the perspective, we extract only the dwarf images of our own brain; we will not take in the whole horizon, but as pygmies of our own creation see only what our pampered thoughts want to see. For our own sake, as for our profession, and as well for the great annular program of existence, let us brush aside the cobwebs, climb the highest heights, take a genuine honest view of the situation, and be happy that we are where we are and not occupying less enviable positions in the great drama of evolution.

During the year 1919 we looked back upon four years of bloodshed such as the world never before saw, followed by a year of industrial disturbances more widespread than in any period of our history, and we should be thankful that Bolshevism has made so little progress. But from the great war comes the dream of universal peace, clearly visioned, more visible of fulfilment now than at any other period, and in the peaceful settlement of strikes and labor disturbances we believe we glimpse the promise of universal understanding and happiness.

The medical profession has no reason to be pessimistically inclined as we turn in 1920th

Street. The Old Year contained milestones all of us will remember, some with regret and others with pleasure.

On the whole, the Old Year was characterized by continual progress, unparalleled in the history of the Association. We have recently had a one hundred per cent increase in the total number of advertisers in the JOURNAL. Sixty of the most prominent and select business firms in the United States joined our advertising columns during the year just closed. Most gratifying is the fact of the improved financial condition, which, in spite of the greatly increased cost of doing business, will allow of the undertaking of bigger things in the future, and permit our organization to assume more and more a place in keeping with its means, and to become more and more truly the great Medical Association whose interests lie in safeguarding the welfare of the profession and the advancement of the public weal.

CENTRALIZING EVERYTHING IN WASHINGTON

The great danger confronting Americans today is the tendency to center everything in Washington. This Prussianistic idea is a wound whose septic effects are spreading through our whole system, and through its influence on America is beginning to threaten the very life of the nation.

We regret to be compelled to admit that as a people we have lost much of the old fashioned Americanism. Independence, self-reliance, obedience to law and quickness to resent infringement, which formerly characterized Americans, seem to have passed away. Every day we meet spineless pseudo-Americans, all passing the buck and crying out that it is proper to "let George do it"—the George, of course, being the federal government. We consider this a calamity which marks the beginning of a new era in the United States. As a result of this apathy and indifference our form of government is changing essentially, and this change is not the result of foresight and action by the majority of the people, but because of the machinations of a noisy minority faction of eager partisans infected by the virus of paternalism and autocracy imported from abroad. These un-American cranks are attempting under the guise of law to undermine our constitution and institutions, and as well to

destroy what few personal liberties yet remain to the citizens of the respective states.

In the new order of things the welfare of generations yet unborn and our own welfare hang in the balance, and before entering into any scheme which will fix with practical irrevocability essential changes in the management of our every day affairs, the people should be brought to a realization of the harmful influences that will surely result from the establishment of an autocracy in America.

The very principles invoked to frame the constitution presume that in the people rests the sole and plenary source of political power. To the states and to the people are definitely reserved all powers not specifically enumerated as conferred upon the federal government.

The old idea of self supervision in matters of local importance must never be lost, if our government is to continue to satisfy a liberty-loving people. No more fatal blow could be dealt the rights granted us under the constitution, namely, life, liberty and the pursuit of happiness, than undue federal interference in the every day affairs of individuals.

The centralization of power, whether in industry, commerce, education, trades or professions, amounts to this: That if we grant to an individual the power to make standards or be the sole authority to revise, abolish or fix conditions under which the people of the future have to live, work, be educated, etc., we have set up an oligarchy which is sure to create and foster Bolshevism.

As confirmatory of our belief in the harmfulness of oligarchies, we have only to look to what happened to Germany under a paternalistic form of government. Germany was the historic symbol of absolutism. It was this centralization of power that was responsible for the world war and the death in actual warfare of ten millions of the flower of the world's youth and the starvation throughout the world of countless other millions.

Too many Americans approach the question of paternalism in a superficial manner and without due consideration of its effect on the future welfare of the world. Thoughtlessly thousands of our people are going on the assumption that the federal government can administer the affairs of the respective states better than the states themselves. Never was an assumption so baseless. The federal government, assuming powers studiously withheld from it, and embarking upon semi-so-

cialistic and paternalistic schemes, is foredoomed to failure or destined to success only by the overthrow of true Americanism.

Is it possible that our law-makers do not realize that a democracy cannot endure if every new move of an over-centralized government is toward the elimination of local pride, self-reliance and constitutional independence? There is danger of absolutism in the concentration of everything in the hands of the government. We have just concluded a war undertaken, we were told, that democracy might not perish from the earth. And to attempt to centralize in Washington the management of affairs that rightfully belong to the respective states, destroys democracy and is a betrayal of principles clearly akin to insanity.

Because of this trend toward paternalism, personal freedom is in danger, and this is an essential condition for progress in society, which government ownership of everything would tend to shackle. The balls and chains on the hands and feet of a convict are quite bearable in comparison with the shackles which government ownership of everything would forge upon the people.

Day after day on the floor of the United States Senate and House of Representatives are urged schemes crazed with paternalism, fast breaking down all sense of self-reliance and self-respect within the states and among the people. The political ignorance of many citizens is such that they do not perceive that federal contributions to the states are merely what the people of the respective states themselves have given to the government minus the usually exorbitant overhead charges at Washington.

A short time ago a Senator from Florida tried to induce Washington to found and maintain a national college of music provided with teachers and a course of study selected by a bureaucracy at Washington. Schemes for a federal department of engineers and engineering, a federal bureau of education, a federal bureau of political information, a federal department of health, a federal bureau of nurses, and other bureaus too numerous to mention are being promulgated. The next thing will be a campaign for a federal department of vegetarianism, osteopathy, optometry, hydrotherapy, legalized plural marriages, compulsory health insurance, and police, and a department of worship. So far nearly everything has been mentioned. Pugilism seems to be about

the only present-day activity where there has not been any attempt to bring within the charmed circle of federal centralization. If the present tendency is to continue, the paternalism is to be the policy of the United States hereafter, we can see no reason for entering the scheme piecemeal, and we suggest that we go it "whole hog or none" and at once establish in Washington as members of the President's cabinet representatives of all the local activities in the country.

Last July Senator Kenyon of Iowa, anguished over the woes of the "bum" who falls off a railroad train, asked for six millions of dollars to take care of the unfortunate gentleman precipitated from the blind baggage as the express takes a curve. We contend that it is rank discrimination to exclude from the same fatherly benevolence the pugilist who happens to be disabled in a scientific encounter and the highwayman who is so unfortunate as to get shot and be disabled as a result of attempting to relieve some honest citizen of his money or property by stealth or strong-arm methods.

As a symbol of inefficient bureaucracy nothing could be more effective than our late experience.

The War Risk Bureau had 14,000 employes jostling each other around, in each other's way, and the poor suffering disabled soldiers of the family were unable to get relief because of inefficiency in the Bureau.

A bureau organized in 1918 for Federal Vocational Rehabilitation paid 344 officials to care for 157 soldiers, and demanded an initial appropriation of \$4,000,000, of which sum \$2,745,000 was for salaries.

The government made a sorry mess of its first experiment, its control of railways, cables, wires and express companies. It failed to maintain these indispensable agents of intercommunication with the economy and efficiency which for the most part characterized private ownership. With the control of the railways, telephones and telegraph cables, all the machinery necessary for federal censorship of the press would be available, and it is fatal to believe that under government ownership it would never be used. Popular government is safe government only so long as it keeps from the hands of officialdom the instruments of tyranny.

From a financial standpoint Washington has made a sorry mess of its first experiment, in its control of the railways, and wires. In spite of

advanced freight and passenger rates, nobody seems to know just how much money the government has lost since it took over the railways. In June, 1919, Congress gave the director general seven hundred and fifty million dollars, although he had asked for one billion two hundred thousand millions. The deficit at that time was in excess of three hundred million. At this writing it promises to be in excess of one billion. The present prospect is that when the government returns the railroads, (now closely resembling a mass of junk,) it will receive from the owners a bill that can be cancelled only by another liberty loan.

Every man, woman and child in the United States will pay by an increase in the cost of living for the experience we have gained through the government trying to run the railroads of the country under the direction of a bunch of theorists, absolutely unqualified for the job.

On the first of August the government relinquished control of the telephone and telegraph wires, and the postal telegraph company announced a twenty per cent reduction in its rates. Government control was a war necessity and as a necessity it was accepted by a patriotic people. It has taught many lessons. Doubtless the most important is that public ownership or that government control does not necessarily imply efficiency.

Advocates of public ownership are less enthusiastic today than they were two years ago. And when the whole situation is reviewed and the difficulties of management during a period of national stress duly considered, the conclusion will be reached by the impartial observer that the government is a poor business manager. That if fairy tales are dreams of the poor, government ownership is one of the most attractive fairy tales to the unthinking, for this dream reflects actual needs.

Mr. Hurley, on his retirement from the chairmanship of the Shipping Board, in comparing public and private ownership said: "As soon as the government had to assume the burden of cost, employer and employe entered into a wild scramble for money, and more money. Prices soared rapidly, while interest and incentive waned. For new shipyards we furnished the capital, we guaranteed the wages, we provided the profits. What natural incentive was there to keep costs down? As we view the opposite conditions under

which our industries have grown to their present vast extent, how could we look for efficiency under such a system, and if we had government ownership over the country nationally, taking in all the public utilities, the same results would follow. More, you wouldn't have outside the government-owned plants that efficient competition which remains the life of trade."

Mr. Hurley confirms our contention, viz., that ownership or control of the industries by the government eliminates healthy competition and destroys initiative.

Following the war regime of bureaucracy, and with the signing of the armistice, a number of people are inclined to think that government ownership is a good thing, in the sense that a dead Indian is said to be a good Indian. Government control or government ownership is an over-advertised patent medicine. Judiciously dosed with the proper stimulants, it induces an immediate exaltation and also a bad head the next morning. While we sincerely hope that government ownership is dead, never to be resurrected, we cannot believe that the agitation for it died with demobilization.

To one who will study the trend of the times and the agitation for a centralized despotism, it ought to be clear that the ultimate control of affairs under such a system will pass from the local community to political clowns and tight-rope acrobats in the arena of politics at Washington whose fitness for the positions will be judged in no small measure by their loyalty to the dominant party.

And these political appointees will be in every sense autocrats whose policy will be the shifting of duties which properly belong to the state and individual to subsidized governmental agencies, and this in the end will destroy initiative, self-reliance and independence, without which democracy becomes autocracy.

We can see nothing but chaos, for the individual, the state and the country, in the trend toward absolutism. We can no better or more emphatically express our hope for the future than by quoting the words of the immortal Lincoln, in his speech at Gettysburg, November 19, 1863, when he said: "That this nation under God shall have a new birth of freedom and that government of the people, by the people, for the people, shall not perish from the earth."

NOTICE

Any member of the Illinois State Medical Society desiring to read a paper before the Surgical Section at the next meeting in Rockford is requested to furnish his name, address and title of paper to the undersigned, not later than Feb. 1, 1920.

Geo. S. Edmonson,
Secretary Surgical Section,
Clinton, Ill.

NOTICE

Eye, Ear, Nose and Throat Section: We are arranging program for next spring's meeting at Rockford. All members of section that will prepare and read a paper or open the discussion on a paper will please send title and abstract of paper to the secretary.

C. F. Burkhardt, Effingham, Ill.
Frank Allport, Chairman.
C. F. Burkhardt, Secretary.

THE MIDWIFE PROBLEM

CAN IT BE SOLVED BY HIGHER EDUCATION?

The very purpose and intent of our laws governing midwives preclude them from attending any other than women in *normal* labor; specifically, midwives are precluded, are prohibited from the practice of medicine. Under the law, midwives are not permitted to assume the supervision of women during pregnancy—are not permitted to advise them, or to prescribe for them for any of the minor or major complications of gestation. It would not be possible to grant them even a modicum of authority in administering to women with even trivial ills of pregnancy, for then the latitude of such service would be determined by the midwife herself; who else could pass judgment, who else could determine when she steps beyond the definitely arbitrary line of demarcation between what is her province and what is technically the practice of medicine? A good law cannot be too arbitrarily laid down when the enforcement of it is dependent upon the interpretation of that law by the individual it is supposed to control. At the present time hardly a midwife plies her trade in this state but repeatedly and consistently violates the medical law. As our law now exists the pregnant poor have no provision made for their possible supervision and

care; as a result the state abets and countenances an egregious neglect. In these enlightened days no one may gainsay the beneficent effects of scientific guidance of the pregnant women. A routine investigation, accompanied by sound advice during the months of pregnancy, is tantamount to an enormous conservation of maternal and fetal life. Many simple problems develop in the months of gestation which may be simply met, but only too often such simple symptoms as present themselves are the precursors of complications fraught with the most profound dual dangers. For a law to permit poorly educated and badly trained women to assume such supervision, to have such responsibility, is to continue the filling of our grave yards with babies and women in the prime of life. If a woman has sufficient means she may secure the services of a physician—if too poor she should have at her disposal an institution to which she may turn for her direction. The state, the county and the city have provided institutions for the care of the inebriate, the insane, the tuberculous, the deaf and dumb, through all the medical necessities, but practically have made no attempt to provide for the needy pregnant woman.

Obstetrics is an integral part of medicine—is a definite surgical specialty with a medical aspect which encroaches upon all departments of medical practice; in fact, no specialty materially touches obstetrics; but obstetrics is most intimately correlated to all medical fields. This being so it is as gross a transgression of rationalism to permit a class of midwives as it would be to license ophthalmologists, dermatologists, laryngologists, etc., as a special class with no test of cerebral development and no training really to prepare them for their work, and without the correlated study of general medicine. Midwife practice never can be placed in a field commensurate to the importance of adequate care and guidance of women bearing children. It is the purest and most illogical sophistry to argue in its favor unless overtures be immediately made to place it where it properly belongs—on the identical plane for the practice of medicine. The only consistent argument for midwives is that they have had a tradition. Granted we must have midwives! Then logically, we should demand the same preliminary qualifications demanded of prospective medical students—should demand the same curricula as that which obtains in approved

medical schools. It is evident that no dental surgeon will relish a comparison in this connection, but the requirements for entrance and graduation from approved dental schools have been repeatedly amplified until the course in many particulars parallels that of medical schools; the most thoughtful of dental surgeons welcome the day when the legal requirements for the practice of dentistry and medicine shall be identical. If this is an appreciated necessity in dentistry how much more essential it is that the candidate for obstetric practice shall be a trained and skilled physician. In our interpretation of dental practice we can but recognize the advantages which have accrued to the race in health and longevity by conservation of the teeth, but how rarely is dental practice accompanied by death. But obstetrics (embodied in the generative organs) offers a higher mortality than any other collective systemic or organic diseases, other than tuberculosis.

The Department of Education and Registration has inherited an iniquitous system in the regulation of the midwife. It is within the province of the Department to sweep the slate clean. We appreciate the greatness of the task, we appreciate that it cannot accomplish it alone, that there must be a wholesome cooperation of our judiciary and the police departments of our state. Our judiciary require as much enlightenment of the perniciousness of midwife practice as do the body politic. The Department of Education and Registration has within its powers and province ample authority to inaugurate a campaign of education which will be state-wide so that the public will learn that obstetrics means the perpetuation of the home, while midwifery annihilates the lives of thousands of women and new born babies. Ignorance of the law is no excuse; ignorance of the poor of something better is no excuse for the perpetuation of the midwife.

We all know how lax the law has been in the regulation of midwives; we all know how commonly midwives practice medicine, and how commonly midwives have built about themselves a criminal record. We appreciate the task the Department of Education and Registration will have in cleaning up the midwives who are practicing medicine contrary to law, we appreciate the problem of securing a method which will prohibit a midwife from practice who has obtained a criminal record. But we cannot but believe that a

large part of the activities of the Department should be directed in this direction, rather than to perpetuate the midwife in a vain effort to raise her on a pedestal by a specious attempt at higher education. If a midwife school must be, then make it as ideal as it should be, by a course as comprehensive as that demanded for men and women who enter the practice of medicine.

NEW YORK THE PIVOTAL CENTER OF COMPULSORY HEALTH INSURANCE IN AMERICA

For the fourth time, at the coming session of the New York legislature an effort will be made to pass a bill providing for Compulsory State Health Insurance. The Governor of the State has announced that, as a part of his administration program. In this policy, he has the support of the New York State Federation of Labor.

We published in the December issue of the Journal that a special meeting of the House of Delegates, the Medical Society of the State of New York unanimously adopted the report of a special committee on this subject, unqualifiedly opposing the passage of any law instituting a system of compulsory health insurance.

The question of Compulsory Health Insurance is therefore a clear cut and definite issue in New York State. The Medical Society of the State of New York is to be commended for the gallant fight it has made on this issue in the past. The profession of America can rest assured that so far as the Doctors of the Empire State are concerned, no stone will be left unturned to bring about the defeat (at the coming session of the legislature) of this most undemocratic and pernicious measure.

IT IS YOUR JOURNAL

Doctor, a realization of the fact that the ILLINOIS MEDICAL JOURNAL belongs to you is of vital importance to the future welfare of the JOURNAL.

The busier you are the more important is the message we have conveyed to you and the more you can afford to take the time to listen to it.

What you get out of the JOURNAL depends upon what you put into it. If you put only enough time into it to throw it into the waste basket you gain nothing. On the other hand, if you will take the time to read this and succeeding

issues, you will gain much; for every number is brim full of practical, right to the point material, taken from men in every day, hustling, busy practice.

So it is up to you, Doctor; if you are interested in the Medical Journal that is trying to help solve your problems, read every copy carefully and if you have something for the next or succeeding issue, don't fail to send it in at once. We want you to take an increased interest in it, and we want to serve you and we want you to help us serve the other fellow.

OBITUARY

SIR WILLIAM OSLER

One of the greatest physicians and medical teachers of the world passed to his rest honored by men of every rank of society as few have been, when Sir William Osler died. A graduate of McGill University, Toronto, in 1872, and professor of the institute of medicine in his Alma Mater, he early gave promise of a genius for originality and research that won promotion to the professorship of clinical medicine in Johns Hopkins University, Baltimore, in 1884.

In 1889 he became professor of principles and practice of medicine in the same university, winning the admiration of an increasing host of colleagues and students.

In 1905 he was called to the regius professorship of medicine in Oxford, an honor without peer in the English-speaking world.

His success may be attributed to unflagging industry in a field that comprised clinical medicine with many forays into related branches including medical history. In the greatest variety of studies he was pre-eminent. The model medical clinic he established at Johns Hopkins was the first of its kind and many of his students have become successful and eminent through his precepts and always kindly encouragement.

His literary works comprise 730 titles, which were listed in a special bulletin of the Johns Hopkins Hospital on the occasion of his seventieth birthday. At the same time, at the home of the Royal Society of Medicine, he was presented by Sir Clifford Allbutt with a memorial volume containing contributions by 150 of his confreres in America and Great Britain.

His address of acceptance on that occasion

shows his fine character and explains his unrivalled success:

"To have had the benediction of friendship follow one like a shadow, to have always had the sense of comradeship in work, without the petty pinpricks of jealousies and controversies, to be able to rehearse in the sessions of sweet, silent thought the experiences of long years without a single bitter memory, fill the heart with gratitude. That three transplantations have been borne successfully is a witness to the brotherly care with which you have tended me. Loving our profession, and believing ardently in its future, I have been content to live in it and for it. A moving ambition to become a good teacher and a sound clinician was fostered by opportunities of an exceptional character, and any success I may have attained must be attributed in large part to the unceasing kindness of colleagues and to a long series of devoted pupils whose success in life is my special pride."

Numerous institutions of learning honored themselves by bestowing degrees upon him and in 1911 King George V made him a baronet of the United Kingdom.

His death from pneumonia, December 29, followed closely his cheery Christmas greeting wired to the medical profession of America.

PLAYING FAIR WITH YOURSELF.

As a member of the Illinois State Medical Society, did you ever look through the advertising section of your own Journal numbering 52 pages, the largest number of advertising pages of any of the issues of the ILLINOIS MEDICAL JOURNAL's history? We should like to see our advertising section large and larger with every issue. The advertising income for 1919 exceeds that of any former year. Let us make 1920 even better. Can it be done? Yes, but only with your consent—your support. We are relying upon you to aid us in keeping this advertising.

Now, Doctor, be honest; did you ever consider how much the advertisers contribute toward the making of your Journal? Will you not kindly reciprocate by giving them your patronage? There is not a doctor receiving this Journal but who, many times during the year, orders pharmaceuticals, instruments, medical books, recommends milk foods and other foods, or sends patients to sanatoria and hospitals. At such

times do you first consider the firms whose acquaintance you have made through the ILLINOIS MEDICAL JOURNAL?

Do not wait for the traveling representative to call upon you. Help is hard to get at the present time, besides they increase the cost of selling. All information is contained in the advertising pages we carry. Do not wait for the literature which the firms put out from time to time and which you have so often consigned to the wastebasket. In the future read it; it may contain much of value to you. The ILLINOIS MEDICAL JOURNAL will reach you regularly (as heretofore) the coming year. It is today one of the best Journals published, so please do your bit to make it even greater.

Doctor, cut out the ADVERTISING INDEX from each issue of the Journal as it comes to you; post it conspicuously and when ordering supplies, etc., do not forget our advertisers, and when writing them do not forget to state, "I saw your advertisement in the ILLINOIS MEDICAL JOURNAL." By doing so you will help three, the advertiser, yourself and the ILLINOIS MEDICAL JOURNAL.

AMERICAN CONGRESS ON INTERNAL MEDICINE

This organization, in conjunction with the American College of Physicians, meets at Chicago February 23 to 28, 1920.

The Sessions will comprise daily clinical and laboratory demonstrations in many of Chicago's leading hospitals and teaching institutions. There will be several evening gatherings. These will be addressed by men eminent in American Medicine. One of the evening meetings will embrace the Fourth Annual Convocation of the American College of Physicians.

Ethical Physicians of the United States and Canada, who are interested in the advancement of what is best in clinical and scientific medicine and its affiliated sciences are cordially invited to attend all sessions of the American Congress of Internal Medicine. The gatherings will be of great practical and scientific worth.

Hotel accommodations must be spoken for at once. Detailed information with regards to headquarters, hotels, clinics, scientific demonstrations, etc., may be secured by addressing Dr.

Frank Smithies, Secretary-General, 1002 North Dearborn St. Chicago, Illinois.

FALSE HEALTH INSURANCE PROPAGANDA.

The discussion of Compulsory Health Insurance at the Eighth Conference of Industrial Physicians and Surgeons held under the direction of the Pennsylvania Department of Labor and Industry, and reported in the April number of *The Journal of Sociologic Medicine*, should be of interest to every practitioner.

The April number of *The Journal of Sociologic Medicine* is authority for the statement that in the general discussion the trend of opinion was that health insurance laws would soon be passed in the majority of states, and that it behooved the physicians to take an interest in the enactment of such laws. The report of the discussion shows that some of the vital weaknesses of the scheme are plainly perceived by far-sighted members of the profession, and that it is going to be a very difficult matter to obtain the support of the profession for any such laws as have been proposed to date. For instance, Dr. Frederick L. Van Sickle, President of the Pennsylvania State Medical Society says: "The subject of health insurance as it relates to the physician, the public and in its problems is just as far away from what we know of American practice as anything we can imagine. We are in the position of knowing nothing of the finished structure of health insurance. * * * We do not, as a medical profession, believe that poverty is caused primarily by illness. * * * We should have the same right as the legal profession to determine the price which shall be set upon our services."

Other speakers emphasized the alleged lack of medical and hospital facilities available to the wage earners, and the poverty that can be traced to illness. Even those who advocated some kind of a system of social insurance admitted the general lack of knowledge in regard to the best remedy for the condition which is said to exist. Certain insurmountable obstacles to health insurance either were ignored or passed over very lightly.

No mention was made of the fact that the only practical scheme of handling medical work under such a law is by the panel system and the

adoption and enforcement by the state of a fee schedule.

Nothing was said about the failure of health insurance in Europe to reduce the number of cases or duration of illness.

No mention was made of the fact that more has been accomplished in this country to prevent illness than has been accomplished in European countries by the elaborate systems of state controlled health insurance in force there. The utter demoralization of the medical profession in Europe was not referred to.

Nothing was said about the large part played by personal vice and bad habits of workers in causing poverty and illness.

Nothing was said about poor sanitation, bad housing conditions and the thousand and one other factors which enter into the questions of illness, poverty and the alleged inability of the worker to sustain himself during a period of illness.

There was no mention of fraud and malinger-ing which appear to be inseparable from any such system.

Nothing was said about the evils of the vast political machine certain to be created under any such system of health insurance as that in force in Germany and in England.

No attention was paid to the large increase in taxation which will be an inevitable part of any health insurance system that may be adopted.

Nothing was said about the division of the people into classes, a certain result of paying cash benefits, partly at State expense, to any portion of the population.

No mention was made of periodical physical examinations, so distasteful to the wage earner, and absolutely certain to follow in the wake of health insurance.

The speakers had nothing to offer under the head of the meddling interference with the home life of the beneficiaries of such a system, one of its most objectionable features and one sure to appear concurrently with the adoption of any State controlled health insurance system.

Nothing was said about the Socialistic end of the experiment, the forcible mulcting of the employer, the farmer and others not directly concerned for the payment of benefits for sickness not caused by industry or agriculture and suffered by those not in the employ of those who are paying the bills.

These are only a few of the inequitable and impractical features of the system, many of which are so unfair and so antagonistic to the American spirit of fair play and equal opportunity, that no such bill as those so far presented can ever hope to succeed in any American State if the people generally are fully informed regarding its vicious features.

Disease prevention is a most useful and promising branch of medicine and in its sane, orderly development rests one of the principal antidotes for such fantastic scheme as "Made in Germany" health insurance. It is unfortunate that some of the influential members of the Association appear to have been carried away by the evident necessity for some sort of relief and, without having made a thorough investigation, have allowed themselves to take a favorable attitude toward the economically unsound, Socialistic, un-American palliative known as Compulsory Health Insurance.

CHANGES IN COMPENSATION ACT

The Workmen's Compensation Act of Illinois, respecting payment of medical services, has been changed by the Statutes of 1919, and the provisions of such Act are now as follows:

First. The employer shall provide the necessary first aid, medical and surgical services. (This applies to strictly first aid services and does not apply to services after patient has been removed to his home or to the hospital.)

Second. All necessary hospital services during the period for which compensation may be payable.

Third. All necessary medical and surgical services for a period not longer than eight weeks, not to exceed, however, an amount of *TWO HUNDRED DOLLARS* (\$200.00). (This covers services subsequent to first aid and the provisions as to the period and amount require no construction.)

Fourth. Such medical or surgical services in excess of such limits as may be necessary during the time such hospital services are furnished. (The limit during the first eight weeks, whether in hospital or elsewhere, is \$200.00. After expiration of eight weeks, no liability of the employer exists for medical services if the employe is not in a hospital. If services extends beyond the eight weeks' period, and it is intended to hold

the employer, his written promise to pay for such additional service should be secured. If recourse is to be had to the employe, it is advisable to secure his written agreement to pay such subsequent services to avoid misunderstandings.)

It is additionally provided by the Act that all the services foregoing are limited to those reasonably required to cure and relieve from the effects of the injury.

The Act also provides that the employe may elect to procure his own physician, surgeon or hospital services at his own expense. Many opportunities for misunderstanding on this subject may exist and it is not inadvisable to secure a written promise in each case from the person intended to be charged.

Particular attention is called to the fact that the medical and surgical attendance is a charge separate from the hospital charge and that the only limit upon charge for hospital services is the period during which compensation may be payable. The medical charges, however, are limited as above mentioned.

ABOLISH THE CORONER'S OFFICE

Abolish the Coroner's office has long been the demand of an enlightened public sentiment. Where it has been done there has been nothing but gratification as a result. The absurdity of the retention of this medieval relic in our civilization has often been shown. The fundamental objection to the office is that at present the office combines in one person two incongruous functions. The first duty of the coroner is to determine the cause of death, and for this a physician is required. The responsibility for death must also be fixed, and for this a lawyer is often required. Men expert in both sciences can very rarely be found. The coroner's jury is also a bunglesome and expensive method of reaching the truth which a single expert could deduce much better. In case of homicide a jury in a court of law must also decide the responsibility of the accused; hence the first, or coroner's jury, is unnecessary.

Medical experts should be appointed to replace the coroner and his jury, and their report should go to designated legal authorities for further investigation. In Massachusetts the coroner's office was abolished thirty years ago, and since

then cases of death have been investigated inexpensively, thoroughly and satisfactorily.

The office is an antiquated one that has survived its usefulness and really only exists as a political plum; its judicial function, we have shown, can be better exercised by other officials provided for by law, and its medical duties would be much more satisfactorily attended to by medical men without interference by laymen or subordination to politicians. The name of the office is in itself an anomaly in a republican government.

DOCTORS TO BE NATIONALIZED IN ENGLAND

On quite reliable authority we are informed that there is a very great prospect of the doctors of England being nationalized in the near future. And that means that all doctors will be under the supervision of the state, paid by the state, and their energies directed by the state. Doctors will then become servants of the state, like army and navy officers and civil servants.

Dr. John Playfair, who is president of one of the medical guilds, is authority for the statement that a goodly number of doctors would be quite willing to accept state medical service, if such service were limited to the needy classes.

I AM

I am stored-up happiness.

I lead the way to peace, power and plenty.

I bring you freedom from anxiety and worry over the living problem.

I am a friend alike of the rich and the poor.

I am common sense applied to life in all sorts of ways.

I am a tower of strength in youth and a staff in old age.

I increase hope, confidence, assurance, certainty as to the future.

I was one of the chief factors in the winning of the great World War.

I am the best form of insurance against poverty and failure. I remove the shadow from the poorhouse.

I make for health, for efficiency, for the highest possible welfare of the individual.

I kill that "rainy day" dread; in fact, I do away with the "rainy day" altogether.

I put hope into the heart of man, a light into human eyes that was never there before.

I put people in a position to take advantage of all sorts of opportunities for investment, for advancement, to take advantage of chance that, but for me, would be lost.

I mean the best physicians, the most skilled surgeons, the best hospitals in case of need, as well as the best health resorts.

I make possible a needed vacation, rest, recreation and travel. I mean leisure, more living with natural art and with the beautiful things in the world.

I mean better opportunities for your children, better schools, better clothing, a more refining environment, greater security for their future.

I show you how to make the most of your income; how to expend the margin to the best advantage; how to make the wisest investments of your time, your strength and your ability as well as your money.

I am the friend of man, a civilization builder. I not only give an upward tendency to the life of the individual, but also to the life of a nation. I sustain and preserve the highest welfare of the race.

I safeguard the future; I enable you to work with confidence, to look up and not down, to rise superior to your surroundings.

I keep thousands of people out of the penitentiary; prevent them from committing theft and other crimes.

I increase the confidence of others in struggling young men and add tremendously to their credit.

I am an employee's best recommendation, for I belong to a large and most excellent family. Every employer knows that the employee who cultivates me has many other sterling qualities, such as honesty, thoroughness, ambition, reliability, foresight, prudence.

I am a symbol of character, of stability, of self-control; a proof that a man is not a victim of his appetite and weaknesses, but their master.

I am often the saviour of a man, cutting off indulgences and vicious habits, putting health in the place of dissipation and insuring a clear brain instead of a cloudy, befuddled one.

I am the enemy of that great curse of mankind—debt—which wrecks multitudes of homes, causes divorce, blasts love, and destroys all peace of mind.

I am that which helps a man to lift his head above the crowd; to be independent, self-reliant, and to stand for something in the world.

Multitudes of families are homeless, moneyless, and are enduring all sorts of hardship, privation, and humiliation because the husbands and fathers never took me into partnership.

The failure army, today, is largely recruited by people who never learned to know me, who ridiculed the suggestion of needing me, who rather despised and looked down on me as standing for meanness and penuriousness and as being an enemy of their enjoyment.

I am the best friend of woman. I make her a better business woman, a better housekeeper, a better wife and mother, a better citizen. I help her to make herself independent, self-reliant, and teach her how to finance herself.

However you make your living, whether by the work of your hand or of your brain, in a trade or in a profession, at home or in the shop, whether your income be small or large, you will always be placed at a disadvantage, will always be taking chances with your future security and happiness, unless you have me as a working partner.

I am an incentive to high living, the simple life and high thinking. I urge spending upward, living upward, dwelling in honesty, in simplicity, living the life that is worth while, the genuine life, the life that will give enduring satisfaction.

I am the beginning of real success; that which puts a foundation under your air castles, that which makes your dreams come true, which builds that "home of my own" to which every healthy, ambitious young person looks forward as the culmination of his hopes.

I AM THRIFT.

—*The New Success.*

TRI-STATE DISTRICT MEDICAL ASSOCIATION OF IOWA, ILLINOIS AND WISCONSIN TO ESTABLISH PERMANENT FOUNDATION FUND OF ONE HUNDRED THOUSAND DOLLARS, A FUND FOR SERVICE.

At the Rockford convention September 2, 1919, the outline of which appears elsewhere in this

issue, the members of the Tri-State District Medical Society, comprising many of the profession in Iowa, Illinois and Wisconsin, voted solidly to establish a "Foundation Fund" to place the association on a permanent basis and give it a high standing as a permanent incorporated medical body. The income from the fund will be used to enable the society to obtain the very finest material for scientific demonstration possible for its splendid programs and bring to the smaller cities of these three states a post-graduate medical and surgical teaching staff for each meeting, unexcelled in any part of the country. The members of this society consider the time and effort put into the raising of the fund and the income therefrom as something which will directly enable them to give the community and the public better and better professional service, and be of the most direct benefit to the people of their own home towns. While the idea is rather a new and advanced one and as long a look ahead as is possible for the present generation to take, it is made possible by the progressiveness of the medical fraternity of this section. When the fund is entirely raised it will permit the society to pay its own expenses without assistance from outside sources. The enterprise and efficiency of this society desire the active co-operation of the profession in helping to raise the fund. Dr. Henry G. Langworthy of Dubuque, Iowa, a trustee of the society was selected to act as chairman of the large organization committee of ten from each state for raising the fund and the Federal Deposit & Trust Co., of Dubuque, Iowa, was selected to act as financial secretary and custodian of foundation fund moneys and securities under the control of the board of trustees of the society. It is considered that this arrangement will insure the safety and perpetuity of the fund and gave the society continued first class financial service.

SLANDERING THE MEDICAL PROFESSION.

The following taken from the *Boston Evening Transcript* November 14, 1919, speaks for itself:

COMPULSORY VACCINATION DANGEROUS
INFANTILE PARALYSIS, LOCKJAW, SPINAL
MENINGITIS and GENERAL PARALYSIS may
be brought on by vaccination.

Many children die as a result of vaccination—others are injured for life.

We can cite cases where healthy, happy children have been vaccinated and soon afterwards have been taken with convulsions and have died in agony.

There is a law in Massachusetts which compels all children to attend school; and there is another law which calls for children to be vaccinated in order to be admitted to public schools.

There was a bill introduced into the Legislature last year, trying to compel children in private schools to be vaccinated—this law would probably reach your child—THE MEDICAL LIBERTY LEAGUE defeated this bill—any year we cease our opposition, this bill will be passed.

England repealed COMPULSORY vaccination some years ago.

Vaccination is taking a *vile poison*, a loathsome disease, which has been given to an animal, and then the matter from a running sore on this animal is put into the blood of your child—it is only through ignorance that you permit such a thing.

Many children come through the ordeal without apparent harm; but many do not—your child may be the next one which does not.

There is no smallpox in Massachusetts; the argument that the reason there is not is because of general vaccination is rot; ninety per cent of the people of the State are not vaccinated. Why don't the unvaccinated ones get smallpox?

The law subjecting the children of this State to this terrible danger is *WRONG, WRONG, WRONG!* It must be repealed!

The Medical Liberty League is composed of a number of people who are giving a great deal of time to bring about the repeal of this law; no one of them gets any remuneration. The work, however, needs money with which to carry it on. Of course we are thankful for contributions of any amount—it all helps, but the object of this advertisement is to try to get some one or a number of people to give a substantial amount.

Here is a crying wrong to be righted—won't a number of people see the need of saving these children clearly enough to give us a thousand dollars or more? A thousand dollars may save your child—it certainly will save some child. One who sees the need has donated this advertisement. *Checks may be sent to James F. Ford, Treasurer,*

MEDICAL LIBERTY LEAGUE, Inc.

18 Tremont Street, Boston

NOTE—Who can estimate the terrible loss of life from disease in the world's war, had it not been for smallpox, typhoid and para-typhoid vaccination? The life saving properties of vaccines and diphtheria antitoxin are known to every layman and we cannot help but wonder why a newspaper enjoying the reputation of the *Boston Evening Transcript* would lend the columns of its paper to publishing such trash.

UNPRODUCTIVENESS VITALLY EFFECTS THE INCOME OF PHYSICIANS, DE- MANDING THE IMPOSSIBLE IN INDUSTRY

We have come to a straining point when something must yield or under-production and exaggerated wages are an economic impossibility, even though capital be drained of its last penny. Money must simply lose its value and a Russian chaos ensue. The writer says:

In Chicago the teamsters are striking. The arbitration board that examined the demands found the wages so high that some of the lawyers on the board suggested that they might become teamsters. Milk-drivers get fifty-six dollars a week, plus commissions, giving them up to eighty dollars per week. The milk-truck drivers get from eighty up. And yet they are not satisfied! And with the exorbitant demands they are getting addle-pated. For instance, Chicago had a recent case of a workman who bought a house with a recently finished porch which had not been painted. He set about to paint it. But the unions came forth, beat him and demanded that he employ union labor for the job, as painting belongs to a union man. A house-maid washing windows was stopped with the information that there are union window-washers for that job. They are getting twenty cents per window. And the work that is done! hardly half as much as a few years ago in the same hours. I saw the other day a brief compilation of a lumber company in Kansas City that turned out 75,000 feet a day three years ago. They still have the same number of people, pay them more, but turn out only 45,000 feet a day. A cement company had to go into bankruptcy, as it was unable to turn out work bid for on the basis of production a year ago. The company has 300 men more than a year ago and yet it produces less than formerly. Question: Is the laborer giving a fair return for the wages he receives?

It is time that the true economic facts be presented to the rank and file by competent labor leaders and official labor organs. We have come to our present pass through the Socialist exaggerations, cunningly spread among the workmen, which have contemplated precisely such a situation. It has all been made possible, in the first instance, by the robber profits of a class of capitalists who have given the incentive to these developments.

Strikes of gigantic size have followed each other with startling rapidity. Local labor struggles of enormous proportion, that under normal circumstances would create the most wide-spread national comment, hardly attract the general attention. In New York alone, in a single issue of the local press, we are told of 30,000 laundry workers who have just renewed their decision to remain on strike until every demand is granted them; 22,000 longshoremen declared themselves on a "vacation" which is to end in a "real general strike" if the companies do not send a committee to negotiate with the men; the same

night the drug clerks in 3,700 pharmacies in Greater New York are to vote on a strike to obtain their demands for an eight-hour day, the closed shop and a thirty-five per cent. increase in wages; the strike of the pressmen continues and countless other labor troubles are perplexing the Gothamite and driving up the high cost of living. Similar conditions exist elsewhere. In the meantime the great national steel strike drags into its sixth week and the dark menace of a coal strike, that would prove a fatal calamity, rises above the horizon to absorb the universal attention. The demand is for a sixty per cent. increase in wages, a six-hour day and a five-day week. An agreement made, with the sanction of the United States Fuel Administration, is to be abrogated. The same regardlessness for the most binding contracts has been shown in other instances, which if extended to the rest of our actions would reduce us to a stage of savagery. Under the circumstances described by President Wilson in his message upon this subject the strike, called for November 1, is declared not only unjustifiable, but unlawful. The action, as he points out, has been taken without any vote on the specific propositions by the individual miners, an almost unprecedented proceeding. Should the strike orders not be recalled, he considers it the duty for the Government to act: "These matters with which we now deal touch not only the welfare of a class, but vitally concern the well-being, the comfort and the very life of all the people." Within the unions themselves difficulties are constantly created by Socialist elements and rebel unions act in defiance of their central organizations.—*America*.

FREE CLINICS FOR THE CORRECTION OF SPEECH DEFECTS

MAINTAINED BY THE BOARD OF EDUCATION OF
NEW YORK CITY

Bryant High School, Wilbur avenue, Academy and Radde streets, Long Island City, 4-5 p. m., Mondays.

Brooklyn Model School, Park Place, west of Nostrand avenue, 4-5 p. m., Tuesdays.

Office of Dr. Frederick Martin, Director of Speech Improvement, Board of Education, 157 East 67th street, Manhattan, 2-5 p. m., Wednesdays.

Hunter College, Lexington avenue and 68th street, Manhattan, 4-5 p. m., Thursdays.

Jamaica Model School, Flushing and Highland avenues, Jamaica, 4-5 p. m., Thursdays.

College of the City of New York, 138th street and Amsterdam avenue, 10-11 a. m., Saturdays.

Special clinics are conducted in the evening. Applications for admission of patients to these should be made in writing to the director of the clinics at 157 East 67th street.

DOCTORS' FEES

Physicians of Spokane have decided to increase their fees 50 to 100 per cent. A letter of advice will

cost \$3 to \$25, a consultation over the telephone will cost \$2, and a visit outside the city limits will take \$6 from the patient's purse.

There is one thing which the doctors have overlooked, and that is charging the friend and neighbor who buttonholes his physician on the street, leads him to the edge of the sidewalk, details his symptoms and gets a little curbstone advice free on his way down town.

Undoubtedly the first thing to be heard as doctors generally begin to raise their fees will be a howl. But calmer consideration should inform the public that there is no class of men more poorly paid on the average than the doctors.

No unskilled laborer would put in the night at his job for any such sum as has for generations gone down on the family doctor's books after a nerve-racking vigil beside a sick baby or one of its elders. No man of any other business, except the preacher, after devoting grilling hours to the job where he was paid would devote a similar amount of time to working where he was needed but could hope for on reward.

Other business experts applied to by letter charge exorbitant fees for the advice given from the wells of their experience, but the doctor puts his time, his eyesight, his expensive education at the service of the patient gone to a summer resort and writing home about a headache, and as a usual thing never charges a cent.

If, pressed like all the rest of the world for money enough to pay for the necessities of life, the doctors decide to end the polite grafting which most of them have endured for years in silence, nobody can blame them.—*St. Joseph Gazette*, St. Joseph, Mo., October 24, 1919.

DOCTORS STRIKE FOR MINIMUM SALARY

A cablegram from London to the *New York Sun* tells of a doctors' strike in Ireland. According to this report the doctors of Dundalk, Ireland, have gone on a strike to enforce demands for a minimum salary of seven guineas (about \$35) weekly for all public services. Their present salaries average \$1,375 a year. The report states that many persons applying to the dispensaries for treatment have been refused.

CALLS AT EIGHT CENTS A VISIT

A PLETHORA OF GERMAN DOCTORS

After having suffered from a dearth of doctors during the war due to the demands of the army, civilian Germany now finds itself over-supplied with medical men. The Leipzig Branch of the Association of Physicians of Germany summed up the situation in a recent issue of the *Berliner klinische Wochenschrift* which states that the maladjustment between the supply and demand in the field of medical employment was never so great as it is at present. The inability to find work in civilian life is most keenly felt among the younger physicians, 5,800 of

whom have been graduated during the years of the war. Equally grave news comes from Austria-Hungary where it is said some 700 former military doctors remain unemployed, after all openings have been filled, to whom may be added some 600 or 700 civilian doctors from German Bohemia, the southern Tyrol, etc., who have been driven to German Austria because of the creation of national governments. Altogether considerably over 1,000 doctors have been made jobless through the political happenings in German Austria. To add to their hardships the National Constitutional Convention has approved alterations in the compulsory health insurance regulations that will practically ruin the profession according to reports. Persons who can satisfy the authorities that their earned incomes do not exceed \$1,000 a year are permitted to join the scheme if they so desire. The fees which doctors receive on behalf of these assured persons worked out to not more than *eight cents a visit*. That there will be a rush of German practitioners to this country after the signing of the peace treaty is very certain, unless measures are taken by the authorities to refuse them a license to practice.—*Journal A. M. A.*

Correspondence

THE MEDICAL FACULTY OF THE UNIVERSITY OF VIENNA STARVING

The members of the medical department of the Vienna University are now literally, with their families, dying of hunger and cold. Money has no value in Austria today, so all of the inhabitants are on a level in regard to obtaining food, clothing and fuel. There are no heated houses in Vienna this winter. Food, fuel and warm clothing have become a matter of life and death to our Vienna colleagues and in order to give the urgently needed aid Dr. Otto L. Schmidt, Mallery Building, 5 South Wabash Avenue, Chicago, is receiving cash contributions from those inclined to give them. American firms have large stores of the necessities of life in Holland and in reply to payments in the United States immediately forward needed supplies where directed.

It is to be hoped that many in the profession of the great state of Illinois will be moved to send aid to our suffering colleagues in Vienna.

OTTO T. FREER.

Public Health

ILLINOIS TUBERCULOSIS PROGRAM FOR 1920

At a meeting of the Executive Committee of the Illinois Tuberculosis Association held in Springfield

on Monday, December 22nd, a program and a budget were adopted involving the appropriation of about \$70,000 for the State Association itself, and approximately \$180,000 for the local affiliated tuberculosis associations. Among the important plans for 1920 is the extension of medical service, providing for the employment of a physician as medical assistant, county director of medical field service, and employment of two supervising nurses, one for the northern and one for the southern section of the State. The Association will also employ the part-time service of a number of prominent clinicians, with the object in view of carrying the highest type of diagnostic clinics into all sections of the State.

VITAL STATISTICS FOR 1920

To encourage the prompt reporting and compilation of vital statistics for the year 1919, the State Department of Public Health has notified all local registrars that all reports of births, still-births or deaths for the year must be filed with the Division of Vital Statistics at Springfield not later than Saturday, January 10th. The Department has also ruled that fees will not be paid for births, still-births and deaths unless submitted by the registrars within this time limit.

During the past few years, under the operation of the present Birth and Death Act, the Division of Vital Statistics has carried out a broad educational campaign among physicians, midwives and undertakers, exercising the utmost patience in the case of apparent violation of the law, and excusing such violation in many instances. This educational campaign, including circulars, letters, public addresses and many newspaper articles through the public press in all sections of the State, has been so thorough that the Department of Public Health now feels that there is not the slightest excuse for ignorance of the provisions of the law. On this account, beginning with January 1, 1920, the Division of Vital Statistics will refer all cases of wilful violation of the Birth and Death Act, such as failure to report births, still-births or deaths, to the office of the Attorney General for action.

ILLINOIS SANITARY ACTIVITIES

The Division of Sanitation of the State Department of Public Health now has under consideration plans for a comprehensive sewerage system for the city of Streator, the cost of which will approximate \$1,000,000.

STREAM POLLUTION AT LA GRANGE

The Division of Sanitation of the State Department of Public Health is carrying out investigations of nuisances created through steam pollution at La Grange. This is an example of modern sanitary installation which has gone wrong through faulty use.

As a result of this misuse, only a relatively small amount of sewage reaches the treatment plant, the larger amount being carried with the storm water into a nearby stream, causing gross pollution.

CLINICAL MEETING IN MADISON COUNTY

The Madison County Medical Society has announced an all-day clinical meeting to be devoted to the early diagnosis and treatment of tuberculosis, to be held at Alton, on Friday, January 9th. The members of the St. Clair County Medical Society will be invited to attend.

NEW VENEREAL DISEASE CLINICS

The Division of Social Hygiene of the State Department of Public Health has completed arrangements for the opening of venereal disease clinics within the next few weeks at Chicago Heights and Alton. The Chicago Heights clinic will be supported by the Associated Charities and Visiting Nurse Association and the State Department of Public Health jointly.

The Alton clinic will be operated by Madison County, the city of Alton and the State Department of Public Health, each contributing one-third of the operating expense. Clinics operated under the supervision of the Division of Social Hygiene are directed by physicians who are fairly compensated for the service rendered.

An institutional clinic has been established by the Division of Social Hygiene at the Francis Juvenile Home in Chicago. This institution, maintained by private subscription, provides a home for venereally diseased children.

AGREEMENTS BETWEEN PHYSICIANS AND DRUGGISTS

Following the example set by Quincy, physicians and druggists in the tri-cities of La Salle, Peru and Oglesby have adopted the plan proposed by the Division of Social Hygiene of the State Department of Public Health, whereby physicians shall cease dispensing drugs and medicines to venereally diseased persons, and druggists agree to sell no patent or other medicines for the treatment of these diseases, but to confine themselves to the filling of prescriptions in such cases. In Streator and Ottawa this plan is said to be under favorable consideration.

INSANITARY HOUSING CONDITIONS

Numerous complaints have reached the State Department of Public Health within the past few months of insanitary housing conditions, due no doubt, to the shortage of habitations of any kind, incident to the cessation of building during the period of the war, and to the present excessive cost of construction. While the problem may be particularly acute at the present time, it has always existed in most of our cities and it appears that relatively few cities have ordinances under which landlords of insanitary habitations can be adequately prosecuted. Illinois, incidentally, has no State housing law such as has proven effective in Indiana and other states.

The average citizen does not realize that within most Illinois towns there exist hovels beside which

an East side tenement would be almost palatial. The question of housing might constitute a very fertile field of investigation for civic organizations in most of the cities of Illinois.

SAFEGUARDING LOCAL WATER SUPPLIES.

The Division of Sanitation of the State Department of Public Health is devoting considerable attention to the polluted water supplies and the sewage disposal system of a number of Illinois communities in which large sums of money have been expended for adequate public utilities. In a great many instances, filtration plants for water supplies and treatment plants for sewage disposal have been installed but have become relatively useless on account of the neglect to which they have been subjected, or to the incompetent manner in which they have been operated.

The installation of water filtration plants has a tendency to give a false sense of security to the citizen, but the frequency with which such plans become ineffective through neglect, has caused the Division of Sanitation in making recommendations to communities to advise the installation of filtration plants, but in addition to recommend the obtaining of full control of the water shed which should be adequately policed to prevent original contamination.

UNUSUALLY LOW AUTUMN MORTALITY

A Favorable Sequel to the Influenza Epidemic

Health conditions during the fall of 1919 have been the most favorable in years throughout the country. The records of the large states and cities and those of the life insurance companies show no signs of a recurrence of the recent influenza epidemic. The mortality from other diseases is at an unusually low point. This may be due to the fact that the larger number of those susceptible were more or less immunized by contracting the disease last fall. There is no doubt also that the epidemic carried off prematurely a large number of persons who had other diseases, usually chronic, who would probably have died this year. The general average of the public health is, therefore, better than it has been for a long time. If there is to be any serious aftermath of the influenza epidemic of 1918 it will have to appear later, as it has not been shown thus far.

The year 1919, in spite of its bad beginning, probably closed as one of the best in the history of the country from the health standpoint.

Book Notices

BOOKS RECEIVED

The ILLINOIS MEDICAL JOURNAL is pleased to receive all new publications which may be sent to it, and an acknowledgment will promptly be made under this heading; but with this distinct understanding that,

while a goodly number and perhaps all of them will be reviewed, the JOURNAL is under no obligation to notice or review any publication received by it which, in the judgment of the editor, will not be of interest to its readers.

TRANSACTION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA, Third Series, Volume Fortieth, Philadelphia. Printed for the College, 1918.

BOOK REVIEWS

We publish full lists of books received, but we feel under no obligation to review them all; however, so far as space permits, we will review those in which we think our readers are likely to be interested.

SURGICAL CLINICS OF CHICAGO, Volume III, No. 5 (October, 1919), 94 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Published bi-monthly. Price per year: Paper, \$10.00; cloth, \$14.00.

This number contains 258 pages descriptive of clinics of many Chicago well-known surgeons. Dr. Paul Oliver presents four cases. Major Herbert A. Potts presents four and an apparatus for making tracings of X-Ray plates. Dr. Arthur Dean Bevan, three; Dr. Robert H. Herbst, three; Dr. A. J. Ochsner, two; Dr. D. N. Eisendrath, a general consideration of tumors of the kidney; Drs. J. C. Gill and Bevan, one and one each by Drs. Kellogg Speed, A. H. Montgomery, G. L. McWhorter, T. J. Watkins, Carey Culbertson, E. L. Cornell, Benjamin F. Davis, and two cases each by Drs. Gatewood, E. L. Moorehead, H. L. Kretchmer. This is a very good volume of Surgical Clinics of Chicago. It contains a great amount of data of interest to the general practitioner.

EXPERIMENTAL PHARMACOLOGY. By Hugh McGuigan, Ph. D., M. D., Professor of Pharmacology in the University of Illinois, College of Medicine, Chicago, Illinois. Illustrated with 56 engravings and 7 colored plates. Lea & Febiger, Philadelphia and New York. 1919. Price \$2.75.

This is a new work containing 23 chapters. Chapter I deals with modes of administering drugs. Chapter II, with experimental Pharmacology. Chapter III, Pharmacology of the Gastro-Intestinal Tract. Chapter IV, Antiseptics and Disinfectants. Chapter V, Drugs Characterized by Their Action Chiefly After Absorption. Chapter VI, Pharmacology of the Cranial Nerves. Chapter VII, Pharmacology of the Heart and Blood-Pressure. Chapter XIII, Closed Method of Anasthesia. Chapter IX, Action of Strychnin, Picrotoxin and Curara on the Central Nervous System. Chapter X, Paralysis of Motor Nerve Endings. Chapter XI, Pharmacology of Sensory Nerve Ends. Chapter XII, Autonomic System and Autonomic Drugs. Chapter XIII, Pharmacology of the Eye. Chapter XIV, Antagonism. Chapter XV, Antipyresis and Antipyretics. Chapter XVI, Pharmacology of the Glands. Chapter XVII, Pharmacol-

ogy of the Kidneys. Chapter XVIII, Pharmacology of the Sweat Glands. Chapter XIX, Pharmacology of the Liver, Mammary Glands, Uterus and Bladder. Chapter XX, Pharmacology of the Muscles. Chapter XXI, Pharmacology of the Lymphatics. Chapter XXII, General Protoplasm Poisons and Miscellaneous. Chapter XXIII, Pharmacology of the Blood. This is a brief, concise and up-to-date work and presents an adequate view of the field of Pharmacology.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A. M., M. D., Professor of Hygiene, University of Pennsylvania, formerly Professor of Hygiene and Dean of the Medico-Chirurgical College; 7th Edition, enlarged and thoroughly revised. Illustrated with 160 engravings and 5 plates. Lea & Febiger, Philadelphia and New York. 1919. Price \$3.00

This book contains 553 pages. Divided into 16 chapters. It is a thorough digest of the subject of Hygiene and Sanitation.

A MANUAL OF OBSTETRICS. By John Cooke Hirst, M. D., Associate in Gynecology, University of Pennsylvania; Obstetrician and Gynecologist to the Philadelphia General Hospital. 12mo of 516 pages with 216 illustrations, Philadelphia and London; W. B. Saunders Company, 1919. Cloth, \$3.00 net.

This is an excellent work on the subject of Obstetrics. While it is a small book it contains a vast fund of information of value to the Obstetrician and General Practitioner. It is subdivided into 19 chapters as follows: I, Anatomy of the Pelvis and Generative Organs. II, Menstruation, Ovulation, Sterility, etc. III, Physiology, Diagnosis, and Differential Diagnosis in Pregnancy. IV, Normal Labor. V, Normal Puerperium. VI, Physiology and Management of a New Born Infant. VII, Mechanism of Labor. VIII, Diseases of the Ovum and Fetal Appendages. IX, Pathology of Pregnancy. X, The Premature Termination of Pregnancy. XI, Dystocia. XII, Hemorrhage. XIII, Injuries of the Birth Canal. XIV, The Pathologic Sequelae of Childbirth. XV, Diseases of the Puerperium. XVI, Diseases of the Breast. XVII, Puerperal Sepsis. XVIII, Pathology of the New-Born Infant. XIX, Obstetric Operations.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M. D., Professor of Nervous and Mental Diseases in Northwestern University Medical School, Chicago; and Frederick Peterson, M. D., formerly Professor of Psychiatry, Columbia University. Ninth edition, revised. Octavo volume of 949 pages, with 350 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Cloth, \$7.00 net.

The fact that this is the ninth revision speaks volumes in its favor and indicates a great demand for the work. The ninth edition has followed along the

general outline of the previous one. The authors state that some radical views which have attained considerable popularity have not been incorporated.

The subjects of General Paresis and Traumatic Insanity have been rewritten and many interpolations and minor corrections made.

Dr. Church has written the part of the book that deals with Neurology and Dr. Peterson the part dealing with Psychiatry.

DISEASES OF THE NERVOUS SYSTEM. A text-book of Neurology and Psychiatry by Smith Ely Gelliffe, M. D., Ph. D., formerly Professor of Psychiatry, Fordham University, New York, and formerly Adjunct Professor of Diseases of the Mind and Nervous System, New York Post Graduate School and Hospital, and William A. White, M. D., Superintendent of St. Elizabeth's Hospital, Washington, D. C.; Professor of Nervous and Mental Diseases, Georgetown University; Professor of Nervous and Mental Diseases, George Washington University, and Lecturer of Psychiatry, U. S. Army and U. S. Navy Medical Schools. Third edition, revised rewritten and enlarged. 1,018 pages, with 470 engravings and 12 plates. Lea & Febiger, Philadelphia and New York, 1919. Price \$8.00.

This work has been largely rewritten. New data in the fields of vegetative neurology and of the Endocrinopathies have accumulated in large volume in the past few years. The authors have tried to do justice to these acquisitions in knowledge by a careful selection of material which will best serve the practical purposes of the student and practitioner. At the same time the authors have endeavored to arrange these chapters that the student may see the trend of the development of this rapidly enlarging field.

The chapters on sensorimotor neurology have been carefully revised to accord with many new observations which the great war has afforded.

In the third part the enlargement has been mostly along the line of an interpretative presentation of the Psychoses, with an increased emphasis on a description of the mechanism involved rather than upon the grouping of certain symptom-complexes under conventional captions.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA AND PROTOZOA. FOR STUDENTS OF MEDICINE AND PHYSICIANS. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the University of Pennsylvania. Ninth edition, thoroughly revised. Octavo of 858 pages with 330 illustrations, a number of them in colors. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, \$4.75 net.

The ninth edition of this work is a credit to the author even if written under the trying conditions of camp life as stated by the writer. The work contains considerable new matter and has been brought strictly up-to-date. It contains 41 chapters with a

bibliographic index and an index to subjects. The work is divided into two parts, part one being general and part two dealing with Infectious Diseases and the Specific Micro-Organisms. The work will prove a valuable addition to the Doctors library.

MANUAL OF OBSTETRICS. By Edward P. Davis, A. M., M. D., F. A. C. S., Professor of Obstetrics in the Jefferson Medical College of Philadelphia. 12mo of 477 pages, with 163 illustrations, second edition.

The second edition of this work contains much new matter. The following new subjects have been treated in detail: Differential Diagnosis of Early Pregnancy; Treatment of Eclampsia by Sedatives; Prolapse of Pelvic Organs Complicating Pregnancy; Chorio-Epithelioma; Cystic Degeneration of Chorion; Anesthesia and Analgesia in Labor; Placental Bacteremia; Inversion of the Uterus Complicating Labor; Septic Infection at the Placental Site Complicating Labor; Basiotripsy, and Abdominal Cesarean Section. This book should prove a valuable asset to the general practitioner and the medical student.

THE SPEECH MOVEMENT IN AMERICA. By W. B. Swift, A. B., S. B., M. D. Boston. *The Journal-Lancet*, August 15, 1919.

The Speech Defect Movement is in some quarters unknown. It started in 1912 in the Speech Clinic in Boston. It soon enlarged and went to the Massachusetts General Hospital. There are over 250 students who have now taken the courses at these Clinics and Clinics founded elsewhere. The movement has also founded "Authoritative Instruction Centers." Seven cities have adopted the methods of Speech Correction. Our Society is behind the movement, The National Society for the Study and Correction of Speech Disorders. To this Society over 200 papers have been read and 50 have been published. One of the efforts is prevention of Speech Defects. The article mentioned above shows what sort of training should be behind the instruction in the subject. The movement is spreading widely all over the United States with great rapidity.

HOW TO BEGIN SPEECH IMPROVEMENT IN THE PUBLIC SCHOOLS. By W. B. Swift, A. B., S. B., M. D., Boston. *Quarterly Journal of Speech Education*, Vol. V., No. 3. May, 1919.

Schools who have no Speech Correction department should be careful about beginning. It can be stated as prevention. It should not be started as ambulance work alone. It should also be put into the classes for the mentally backward. All this has been done in Cleveland, Ohio, where 45 classes are now under the direction of one supervisor and run by 15 teachers. Teachers who are interested to study speech correction can add \$200 to \$500 a year to their salary. They should be careful and choose to study under those who have the widest and best training for this special instruction. It is very easy

to interest the superintendent to put in speech correction. It also can be done with great profit by any teacher, privately, whether she has been employed by a public school or not. The cheapest way to get this instruction is to hire the instructor to come and give it in your city not to travel far from home to obtain it.

SPEECH CORRECTION IN THE FEEBLE MINDED AS A FUNCTION OF PUBLIC SCHOOLS AND STATE INSTITUTIONS. By Walter B. Swift, A. B., S. B., M. D., Boston. *Journal of Psycho-Asthenics*. Fall, 1919.

The feeble-minded and ungraded cases should be given speech correction as a part of their regular training. The mentally backward are amendable to a great deal of speech improvement by speech drill. It is more than speech correction—it is mental adjustment or readjustment and also a developer of the mentality. Speech correction in this field really means mental development.

STUTTERING OUTGROWN, A DANGER AND A HOPE. By W. B. Swift, A. B., S. B., M. D., Boston. *Journal of Speech Education*, Vol. V., No. 4. October, 1919.

Stuttering is rarely outgrown. Some people exaggerate this to the mind of the stutterer and keep him from getting the proper treatment early. Outgrowth is so rare in stuttering that it cannot be relied upon. The danger of it is that it will delay proper treatment. Yet we have a right to hope that by further study of outgrowth we may make new discoveries. For the present it is necessary to treat all cases as early as possible.

FIFTEEN SPEECH TEACHERS CURE 419 DEFECTS IN ONE YEAR. By W. B. Swift, A. B., S. B., M. D. Boston. M. Claudia Williams, Cleveland. *Ohio Educational Monthly* October, 1919.

Cleveland's Statistics for Speech Correction for the first year are out. 647 cases have been under treatment. The great majority of these have improved. Those who have made such marked improvement that they were discharged, numbered 419 defects. A conservative estimate makes the cost of each defect to the Board of Education amount to \$2.11. The cases were Kindergarten, Grade and Feeble-Minded.

NEOSALVARSAN

The use of Neosalvarsan (Neoarsphenamine-Metz) is very widespread. In Belgian Congo, West Africa, is a Mission of the Disciples of Christ. In this far away country many of the natives suffer from frambesia, or, as it is more familiarly known, yaws.

The head of the mission recently communicated with the H. A. Metz Laboratories, Inc., New York, acknowledging the receipt of a large shipment of Neosalvarsan, and said that the results in the treatment of yaws were little short of a miracle to the natives who

frequently go to the mission and ask for "the medicine of the needle."

In many instances a single injection of Neosalvarsan has effected a cure. The mission physician also gives intramuscular injections of Neosalvarsan to small children suffering from yaws, with most satisfactory results.

Dr. Pierson, the mission physician, says that most doctors there see from 200 to 400 cases of yaws in a year and that most of them can be cured by a single injection of Neosalvarsan, whereas if it were impossible to obtain the drug, the cases would go on to the tertiary stage, with all its suffering, and many of the unfortunates would be doomed for life.

Colonel H. A. Metz, president of the H. A. Metz Laboratories, Inc., has donated the necessary funds to the Volunteer Hospital, of New York, for the installation and development of a urological and syphilological department, both in the hospital and its dispensary. It is the hope of Colonel Metz that the department will not only be able to do the usual ambulatorium and bedside work of such a subdivision but that it will also engage in research work which may lead to preventive measures and to treatment, to lessen the evils of syphilis for the betterment of the race.

This donation by Colonel Metz is in keeping with his action in developing a large scientific organization in his laboratories in Brooklyn. He has on his staff a number of eminent biologic and physiologic chemists who are engaged in research work, not only in connection with Salvarsan and Neosalvarsan, but other products, quite foreign to the arsenicals, are being studied and developed by these experts.

Society Proceedings

ADAMS COUNTY.

October Meeting

The October meeting of the Adams County Medical Society was held on Monday, October 13, at Hotel Quincy. Luncheon at noon, followed by the business meeting, which was rather short.

The president introduced the speaker, Dr. J. W. Van Derslice of Chicago, president of the Illinois States Medical Society, who read a fine paper on "Acidosis." We were very fortunate to have Dr. Van Derslice with us and many favorable comments were made about his excellent paper.

Dr. L. L. Beatty, from the Internal Revenue office, Springfield, was present and stated he had been sent to ask the society to appoint a committee to draft some sort of resolution regarding the disposition of drug addicts and to submit the same in writing at this meeting. A thorough and rather heated discussion followed. All the acts and laws from the Harrison Narcotic Law down and back were remembered and commented on unfavorably. Finally, the chair stated unless the members were perfectly agreeable, this committee would not be appointed. Dr. Beirne moved

that said committee be appointed, but that their report be deferred until the next regular meeting. Seconded. Carried. Committee: Drs. Beirne, Nickerson and Rice. Adjourned.

November Meeting

Held on Monday, November 10, at Hotel Quincy with a banner attendance. As usual lunch was enjoyed at noon. Meeting was called to order by President Austin. Motion made and seconded that in future meetings be held at 8:15 p. m. instead of noon, as at present. Carried.

Report of committee relative to control of drug addicts:

To the Adams County Medical Society:
Quincy, Ill.

Gentlemen: Your committee, to whom was referred the matter of control of drug addicts and the Harrison Narcotic Law, begs to report that the whole law and plan of operation of same together with the tax upon the medical profession is unfair and unjust.

To place a special tax on ethical medical men who use an opiate in good faith in the legitimate practice of their profession is as unjust as to tax them in a special way to support the police or fire department. To increase the tax 300 per cent was so unfair and flagrant, further comment is unnecessary. No question is settled until it is settled rightly, and we respectfully protest and urge the Department of Internal Revenue to annul this tax and to confer with organized medicine, and leave the care of addicts to local communities.

Knowing the iniquities of the law, its application and the class of patients drug addicts are; in order to work out a plan to assist and cure these poor unfortunates, as well as show the most unselfish profession in the world their efforts are appreciated.

Your committee recommends that a copy of this report be sent to Commissioner of Revenue Roper, also Dr. L. L. Beatty, together with our respective Congressmen and Senators.

(Signed.) J. H. RICE,
H. P. BEIRNE,
L. H. NICKERSON, Committee.

Adopted, November 9, 1919.

Application for membership of Dr. F. W. Bowles was referred to the Board of Censors.

The following communication was then read:

To the President and Members of
The Adams County Medical Society,
Quincy, Adams County, Illinois.

Greetings: At a meeting of the Retail Druggists' Association of Quincy, Ill., held on the 4th day of November, 1919, the Rules and Regulations of the State Department of Public Health were explained in detail by the State Officer, Howard H. Zorn, and the resolution of the members of the Medical Society expressing their willingness to cooperate with the Department of Public Health and the druggists in the campaign for the control and suppression of venereal

disease, was delivered by the State officer with the assurance that since their interests in the matter are closely allied, it was the spirit manifest at the doctors' meeting to jointly carry out the campaign against venereal disease as concerns the City of Quincy.

The Quincy Retail Druggists' Association, through their respective officers, hereby wish to inform the Adams County Medical Society of the adoption of a resolution whereby the medical profession of the City of Quincy will receive their cooperation as a part of their action taken at the meeting.

That, on and after the 10th day of November the undersigned druggists shall absolutely refuse to sell or offer for sale to the public, excepting upon a prescription written by a legally licensed physician, any drug, specific, pharmaceutical preparation, compound, chemical or patent medicine whatsoever for the treatment or cure of a venereal disease.

That all persons appealing to us for the above mentioned remedies will be referred to their family physician for treatment, and in the event that the persons applying for medicine state that they do not employ a family physician, that these persons will be referred to a reputable physician for treatment.

That the undersigned will not under any circumstances refill a prescription or a copy of a prescription without a written or phone order of the doctor issuing same.

That the prescriptions coming into our hands will not be revealed to any person or persons whatsoever without the express consent of the doctor issuing same.

That in so much as we druggists have offered the medical profession our hearty and sincere cooperation in the matter of carrying on an active campaign to stamp out venereal disease in the city, and stand ready to carry out our resolutions to the utmost of our ability we now ask the members of the Adams County Medical Society to assist us and further the interests of the public in general by the adoption of resolutions within their own organization covering the following points in whole or in part, viz:

That the doctors engaged in the practice of medicine within the corporate limits of the City of Quincy agree to write prescriptions for all their venereal disease cases and that we druggists be allowed the privilege to fill such prescriptions directly for the patients if possible. In the event that the doctor has a patient who refuses or prefers not to bring the doctor's prescription to the druggist personally that the doctors agree to have such prescriptions filled by the druggists for the patient at the same rate of charge for medicine as would prevail had the patient presented the prescription to the druggist in person.

That no doctor shall receive from any druggist any compensation whatsoever for the prescriptions that he fills.

That no druggist shall offer or give any compensation whatsoever to the doctor for the sending of prescriptions to their respective stores.

It is the opinion of the undersigned that if a

working basis can be evolved between the two professions covering the above mentioned points, that the campaign against venereal disease can be put upon an effective and efficient basis with the result that the health of the public will be materially benefited and that Quincy can maintain her reputation of always being a leader in the movements of this character.

Respectfully submitted this 7th day of November, Nineteen Hundred and Nineteen.

THE QUINCY RETAIL DRUGGISTS ASSOCIATION,
(Signed.) E. P. BROWN, President,
C. A. E. KOCH, Secretary,

Together with Members Signatures.

It was moved and seconded that resolution be made and adopted that Adams County Medical Society concur in the resolution of the Retail Druggists' Association, and that the society lend its assistance in the movement. Carried.

Two new members were admitted, Drs. J. D. Bullet of Quincy and R. E. Potter of Loraine. The scientific program was in the hands of Dr. Wilson R. Abbott, Chicago, and anyone who has heard Dr. Abbott knows it was ably handled. His subject was "Consumption," and before he had finished speaking those present could differentiate between tuberculosis and consumption, had a clear idea of the pathology of both and some splendid ideas regarding their treatment. We certainly appreciated Dr. Abbott's efforts, and hope to hear him again very soon.

ELIZABETH B. BALL, Secretary.

December Meeting

Annual meeting of Adams County Medical Society was held on Monday evening, December 1, 1919.

Dr. Fred W. Bowles was admitted to membership. Application of Dr. Thomas B. Knox, Quincy, read and turned over to Board of Censors.

This being the annual meeting, reports of officers were read and placed on file.

Officers for 1920 were elected as follows:

Dr. Walter D. Stevenson, president.

Dr. H. P. Beirne, first vice-president.

Dr. W. E. Mercer, Liberty, second vice-president.

Dr. Elizabeth B. Ball, secretary.

Dr. J. H. Bloomer, treasurer.

Drs. E. S. Caddick, C. E. Ericson and J. K. Reticker, censors.

Dr. J. A. Koch, defense committee.

Drs. W. H. Baker, J. H. Pittman, Camp Point and E. Zimmerman, trustees, all of Quincy except as stated.

After thanking the members for the honor conferred upon him, and asking for the co-operation of each one, the new president called upon Dr. Warren F. Pearce, recently retired from service in the United States Navy, and who constructed and superintended a hospital in France for several months during the war. Dr. Pearce told many interesting phases of his trip and related several unusual operative procedures. The members showed their appreciation of the talk by asking numerous questions.

The society will hold a banquet in January to which the ladies will be invited.

ELIZABETH B. BALL, Secretary.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY

Regular Meeting December 3, 1919

1. The Progress of Clinical Research into the Cause of Dementia Praecox. Exhibition of Patients. Bayard Holmes.

Discussion by Peter Bassoe.

2. The Union of Fractures Resulting from War Wounds. W. E. Gallie, Toronto, Ontario, Canada.

Discussion by D. B. Phemister.

No meetings December 10, 17 or 24.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of April 21, 1919, continued

MORAX CLINIC

DR. OLIVER TYDINGS said it would be unfortunate to let it go out that it was the consensus of opinion that atropin was not contraindicated in suspected cases of glaucoma. He had not had any experience in seeing glaucoma precipitated by the use of tropin, but he recalled some cases that were attributed to it.

The only fulminating case of glaucoma he ever saw was when he was sent for to see a patient for the first time, who said she had not felt well for a day or two, but had not called a doctor until she noticed she could not see. This was about 8 p. m., and I asked for an immediate operation which was declined. Consultation was granted and both eyes operated upon the next morning before 6 o'clock. The patient was stone blind at the time of the operation, and was until her death some years later, and she had not had sufficient trouble before that evening to call a physician. There was no history of the use of atropin, or that she had used any domestic remedy which could be suspected of cycloplegic action. This was not a case where vision had been lost as a result of hemorrhage followed by glaucoma. Gifford, of Omaha, had reported a number of cases of glaucoma following the use of homatropin. The speaker saw one case in a young woman, twenty-one or twenty-two years of age, who was absolutely blind in one eye. He saw her after she had been blind in one eye five years which she attributed to some drops that were instilled into the eye at the Illinois Charitable Eye and Ear Infirmary. She did not know anything about this, but he knew the girl was blind in one eye from glaucoma.

If the colloid theory of Fischer, of Cincinnati, was right, the speaker thought that anything which would tend to produce mydriasis or would interfere at all with the drainage system, would produce glaucoma. He certainly would not want atropin instilled into his own eyes if he had glaucoma.

DR. MUNDT said he hoped none of the members misinterpreted what he had said. He simply asked whether any member knew of a case of glaucoma that was precipitated by the use of atropin or any other mydriatic.

DR. CLARENCE LOEB said that several years ago he had a case of glaucoma simplex which was very well controlled by the use of the ordinary miotics. One day the patient consulted him, and the eyes were found in good condition. Another prescription for pilocarpin was given him. His eyes were much worse that afternoon, after using one drop of the new medicine, and they became suddenly very much worse. He found this man was suffering from an attack of acute glaucoma. He looked up the prescription and on it was written two per cent. pilocarpin. The druggist stated absolutely that the prescription was filled as written, but the same medicine was used as a control in a rabbit and it produced

dilatation of the pupil. He did not know whether atropin or homatropin was used, but certainly one of them was given instead of the pilocarpin that was prescribed, and there was no question that it caused an acute glaucoma.

DR. N. C. NELSON stated that at the infirmary he had taken the blood pressure and intraocular tension in about 75 cases before operation. They found quite a number of patients that had developed glaucoma who had a high pulse pressure and showing that the intraocular tension was increased. Very high pulse pressure was very often found even if the intraocular tension was not increased at the time the blood pressure was taken but would develop an increased tension after operation.

They found that a patient might have a high blood pressure (systolic) and the pulse pressure being normal; also that a patient had a normal blood pressure (systolic) according to his age, but would have a high pulse pressure.

He thought that if all cases were followed up closely; blood pressure and intraocular tension were taken in all cases before operation, one would find there was a glaucomatous condition present already, and any operation or traumatism to the eye helped to precipitate a latent glaucoma. This condition was probably due to the whole system undergoing the same changes as those that produced arteriosclerosis.

They had not as yet worked out as many cases as they would like to do, but so far as they had gone there seemed to be a very close relation between the high pulse pressure and glaucoma.

DR. ORCUTT, in closing, stated that the sooner one operated on a case of acute glaucoma, the sooner he would save the eye. If one could gain the consent of a patient suffering from acute glaucoma, with a tension above 35, his advice was to operate because one would be able to save a good useful eye.

The operation he had been following almost entirely was trephining, and during the past year he had not had one failure in his service from trephining. He had had one case of an old chronic glaucoma in one eye, and an acute condition in the other eye, in which the glaucoma recurred in the chronic case. A second trephining was done on the lower portion and the eye had been all right since.

The worst case he had ever had was one in which atropin was used. He finally resorted to operation and the patient recovered with fairly useful vision. Glaucoma might develop in iritis or uveitis cases where atropin was used due to the adhesions interfering with circulation of the eye.

SEBACEOUS CYST OCCUPYING THE REGION OF THE LACRIMAL SAC.

DR. CLARENCE LOEB reported the case of a man who gave the history that he awoke one morning with a severe inflammation of one eye with swelling at the same time which lasted two days. This swelling was situated over the lacrimal sac and was about the size of a lima bean. It had a resistant feeling such as a sebaceous cyst would give. Was this a case of sebaceous cyst or one of dacryocystitis?

DISCUSSION

DR. MICHAEL GOLDENBURG did not think Dr. Loeb's case was one of sebaceous cyst, but an anomalous development of the anterior ethmoidal cells. The wall of the ethmoidal cells were very thin, at times, and on blowing the nose one could notice swelling. He had had three such cases in which the anterior ethmoidal cell was involved. If one applied firm pressure over the swelling it would evacuate it.

He saw one case of swelling of the lacrimal sac in which no pus could be expressed. He irrigated the sac and forced fluid into the nose quite freely. An incision was made in the region of the sac and the sac was found to be normal. In one case he followed the sac along the orbital wall in for about one and a half inches and into the ethmoid, made a good big hole, and closed it up anteriorly, compelling it to drain into the nose.

DISLOCATION OF BOTH LENSES.

Dr. Oliver Tydings exhibited and reported a case of dislocation of the both lenses in a Sister, thirty-five years of age. The pupil was not widely dilated. He had not examined the case for three or four weeks. He had used cocain three times since coming here but had not been able to secure much dilatation of the pupil. There was no irregularity of the pupil. Last July the patient came to him with the lens dislocated in each eye. At that time the zonule was not broken above but the lens was dislocated temporarily in each eye. Patient was fitted with glasses some years before and was wearing minus ten or eleven, he did not remember which. After giving her advice to be operated on, he did not see the patient any more until about a month ago. When she came back the lens was not only broken towards the nasal side but the zonule above was broken. In the meantime the patient had gone to an optometrist in Indiana who succeeded in fixing up a pair of glasses for twenty-two dollars, and they were plus. They were cataract lenses.

He would like the members to examine the case and offer suggestions as to treatment.

DISCUSSION

DR. ORCUTT said he had had the case of a boy with both lenses dislocated upwards. In this case he needled them and got rid of the dislocation.

EMBOLISM OF THE CENTRAL ARTERY.

Dr. Orcuss exhibited and reported the case of a man who, two weeks ago, while sweeping suddenly became blind. When admitted to the Infirmary he was just able to see his way about. As he had not the history of the case he was not able to say definitely what the man's vision was; but there was every indication that this was a case of embolism of the central artery. Both arteries were shrunken. The fundus was white. There was a bright red spot in the macula. The urine showed the presence of albumen. He had a blood pressure of nearly 200. He had not made a positive, but simply a tentative diagnosis of embolism of the central artery.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

A regular monthly meeting of the Chicago Ophthalmological Society was held May 12, 1919, with Dr. Heman H. Brown in the Chair.

Dr. Samuel G. Higgins, of Milwaukee, Wisconsin (by invitation), presented:

"THE REPORT OF THE MILWAUKEE OTO-OPHTHALMOLOGICAL SOCIETY ON VISUAL DISABILITY FROM EYE INJURY AND COMPENSATION TO BE ALLOWED BY THE WISCONSIN INDUSTRIAL COMMISSION."

This report had been requested by the Industrial Commission of Wisconsin as they wished to establish an equitable settlement according to the enacted law for compensation for eye injury. Reference to other tables and attempts to apply a working basis for com-

pensation was made in the paper to show that they were of the same idea in the fundamental estimation of vision.

The Milwaukee table was based upon a 3 per cent. loss of vision for every ten foot loss of ability to read the letters of the Snellen chart up to 20/350 which they allow to be industrial blindness. They did not follow the report of the committee of the Chicago Ophthalmological Society, which appeared in the Ophthalmic Record of January, 1917, as they feared the report on the whole would not be understood by the Wisconsin Industrial Commission.

The vision of both eyes did not mean much in the estimation of visual disability, but if no record was made of the vision of either eye before injury settlement could hardly be based upon this after injury. It was difficult enough when estimation dealt with the one injured eye alone. No complaint had impressed the commission as to the loss of stereoscopic vision. This faculty was restored upon effort. Moreover, some of them were not so sure that stereoscopic vision was entirely dependent upon two equally good seeing eyes.

Human interest, plus the statement of the man and testimony of oculists, tended to give more compensation rather than less for disfiguring injury with bad cosmetic effect. They believed compensation should vary with character of employment, but this was not yet written in the Wisconsin law. This did not limit their report as to visual disability. In their opinion, simplicity in the table should be the watchword.

Major Harry S. Gradle told of the

"COMPENSATION TABLE AS REPORTED TO THE CHICAGO OPHTHALMOLOGICAL SOCIETY"

and published in the *Journal of Ophthalmology* in July, 1918.

The idea of the committee appointed to investigate the matter was to give recompense to the injured man based upon his earning capacity after his recovery from the injury. So many factors entered into the matter that no particular table could be prepared that would cover all cases. They tried to simplify and reduce to an arithmetical basis all the factors upon which the degree of the ocular efficiency of the injured rested, and divided all the results of injuries into ten main heads. He reviewed these different heads and stated that the committee did not attempt to say what compensation should be paid. It was not their role as ophthalmologists, because a man earning ten to fifteen dollars a week was not entitled to the same amount as the man earning thirty to forty dollars a week. The amount should be decided by the legislature and was usually based upon the weekly salary. They agreed with Dr. Higgins that 20/40 did not by any means represent a loss of 50 per cent. vision, but they could not determine what it represented and had to accept it as 50 per cent. loss until some other term was determined. The resultant vision must be taken and the

vision of the other eye because compensation was based upon the ocular efficiency of the man, not upon the injury and what it was, but what the man could do with his eyes after recovery. In the case of a man who did fine work, it was necessary to find out how much depth perception he had and how much he had lost. In the human interest and cosmetic result, if the injury was disfiguring they were entitled to a certain amount of compensation for that alone, no matter what the injury to the eyeball might have been.

As to when the examination should be made—time was a factor; the man would probably think the vision was at the worst stage two or three days after the injury, while if it was something that cleared up slowly the employer would want it taken as late as possible, so they decided that at least two months should elapse between the time of the injury and the time upon which the record of vision was based. They believed this would give a fair idea of the resulting vision.

In the second class of cases with impairment of both eyes they placed the total compensation as three times that for one eye.

The committee still believed that the compensation must be based upon some such data as was contained in the table which they had submitted, although it was not presented with any idea of its being accepted as final. The committee desired opinions upon that type of table and hoped that eventually there might be some unanimity of opinion among the ophthalmologists as to what was due for ocular injuries. There should be some definite idea so that a lay board might sit down and figure up just what a certain type of injury was entitled to. That would be the only way in which justice could be done to the employer and the employee. There was no table at present that could possibly be made to cover every case and there must be some method of taking into account all the things that represented the ocular efficiency of the injured.

DISCUSSION.

DR. FRANK ALLPORT said that he had listened to the argument of Dr. Gradle and also to that of Dr. Higgins in which they advocated the conclusion of the committee of the Chicago Ophthalmological Society and Barnes-Chapman Compensation Table, adopted in Milwaukee. Both of these tables contained many meritorious features, but they were both too complicated, too long, too involved and too complex to be understood by laymen and by many oculists. Compensation tables would have to be framed in such a way as to appeal to the average mind of the average industrial commissioner, lawyer and accident company. These men knew nothing about involved ophthalmological subjects. What they wanted was something primer-like in its simplicity, and fair and honorable to all parties concerned in such matters. If a table of this nature could be devised and adopted, it would satisfy everybody and give litigation procedures at least some foundation upon which to go in cases where eyes had been injured. It could be taken as a foregone conclusion that if industrial commissions, lawyers and accident insurance companies were requested to adopt complicated recommendations, they would never adopt them at all and things would go on in their present unsatisfactory and chaotic condition. Both the recommendations suggested by Dr. Gradle and Dr. Higgins involved quite a

number of points frequently present in cases of visual losses. He referred to progressive optic atrophy, high power convex lenses after cataract extraction, various forms of intracocular diseases, excessive lachrymation, etc. These were all important features and would have to be frequently taken into consideration, but most of them were matters that would have to be settled by expert medical testimony, and were not susceptible of being adjusted by rules or by compensation tables. He, therefore, thought it would be wise not to even mention matters of this kind at the present time because they only complicated the situation and rendered it more improbable that we should ever make a beginning in settling these complex issues. His own idea was for us to make a beginning with the hope that other things would follow. The most important point that came up in settling litigation, involving visual losses, was as to the amount of visual loss of one eye. He therefore felt that if we could arrive at some reasonably fair agreement concerning a compensation table for matters of this kind, it would be a great step in advance and after this one step had been taken, other steps would follow.

There seemed to be, at the present time, a general desire on the part of all parties concerned in litigations of this kind to adopt some simple table as a working basis to go on. He believed that if a table was suggested and endorsed by oculists that it would find a ready adoption by industrial commissions, lawyers, insurance companies, etc., but we must never forget that a table of this kind must be absolutely simple, easy to understand and fair to both plaintiff and defendant. Unless a table of this kind was endorsed by oculists, it would never be adopted in litigation.

The table that he recommended was one suggested by Drs. Prince, Penick and Hagler of Springfield, Illinois. He had made one alteration in the Springfield table, and that was to endeavor to settle the question as to what constituted industrial blindness. The Springfield table indefinitely specified it as "nil," but he did not think that this was sufficient. He thought we should try, as he had said before, to settle what should be estimated as industrial blindness. Personally, he felt that if a man could not see the 200 test type at more than five feet he should be regarded as industrially blind—in other words, 5/200 should indicate industrial blindness. Of course, this was a point that might be argued pro and con—a man who had this amount of vision was, of course, not blind in the strict sense of the word, but he was certainly industrially blind, and could no longer do ordinary work in an ordinary way. He had been told by some prominent accident insurance men that they would endorse this view and personally he felt it was most generous and liberal of them to be willing to accept 5/200 as industrial blindness. He made, therefore, this important change in, what he called, the Springfield table—otherwise the matter was left just as devised by the Springfield doctors. He presented the table herewith:

Industrial blindness or	
5/200	entitles an applicant to 100 weeks of compensation.
10/200	entitles an applicant to 75 weeks of compensation.
20/200	entitles an applicant to 50 weeks of compensation.
20/160	entitles an applicant to 40 weeks of compensation.
20/140	entitles an applicant to 35 weeks of compensation.
20/120	entitles an applicant to 30 weeks of compensation.
20/100	entitles an applicant to 25 weeks of compensation.
20/80	entitles an applicant to 20 weeks of compensation.
20/60	entitles an applicant to 15 weeks of compensation.
20/50	entitles an applicant to 10 weeks of compensation.
20/40	entitles an applicant to 5 weeks of compensation.
20/30	entitles an applicant to 2 weeks of compensation.
20/20	entitles an applicant to nothing.

In accordance with the law of the State of Illinois, a man, who was industrially blind, was entitled to 100 weeks of compensation for industrial blindness in one eye. This was a matter that we had nothing to do with; we could not change it because it was a part of the law of the state. Of course, other states had different laws, but they, at the present time, were working under the law of the State of Illinois. If, then, this point was settled and if they could agree that 5/200 constituted industrial blindness, the rest of the problem seemed to be perfectly easy—all they had to do was to use the Snellen

test type and grade down the number of weeks of compensation until normal vision was reached, which, of course, entitled a person to no compensation whatever. This grading down of the weeks of compensation should be done as gradually as possible. He thought the Springfield table had done this fairly and about as accurately as it could be done.

There was one thing to be noted, that inasmuch as the law of the State of Illinois entitled a person to 100 weeks of compensation for industrial blindness in one eye that it made it easy and possible for the estimation of the loss of vision by percentages, that is, one could call the number of weeks in the last column either weeks or percentage. For instance, a person who was industrially blind was entitled to 100 weeks of compensation and had 100 per cent. loss of vision. A person whose vision was 10/200 was entitled to 75 weeks of compensation and had a loss of 75 per cent. of vision. A person whose vision was 20/200 was entitled to 50 weeks of compensation and had a loss of 50 per cent. of vision, etc. Of course, we were all familiar with the fact that at the present time we were obliged, in giving testimony, in cases of this kind, to estimate visual losses in accordance with the fractions derived from Snellen test type. For instance, 20/40 of vision at the present time was regarded as one-half loss of vision, and yet we know perfectly well that a man who had 20/40 vision had not lost one-half of his vision. 20/50 of vision was regarded in our courts as a loss of three-fifths of vision, and yet we know that a man whose vision was 20/50 had not lost three-fifths of his vision, and yet this was the way we were practically obliged to settle cases of this kind.

This was obviously unfair and should not be allowed to continue. He thought there was practically no difference of opinion on this point—the only question was, what should we do to arrive at a conclusion that was fair? It was for this reason that he suggested the Springfield table. Some men imagined they were espousing the cause of the laboring men when they objected to such a small amount of money representing the various degrees of visual loss. This was a matter that we had nothing whatever to do with. This had all been settled by the legislators at Springfield under the Workmen's Compensation Law. Industrial blindness of one eye meant 100 weeks of compensation—no more and no less. He was quite willing to admit that he would not lose one of his eyes for this amount of money, and in a broad humanitarian sense he did not consider that 100 weeks of compensation represented a sufficient amount of money to reward a man for the loss of one eye, but we had nothing to do with this at all. The law could be changed, but until the law was changed, we would have to work under the law of Illinois and not in accordance with our own philanthropic ideas. Some people, in looking over the circulars issued by the various insurance companies, noted that under some kinds of policies a man received \$2,500.00 for the loss of an eye and under some other policies he received \$5,000.00 for the loss of an eye, etc. That was all true, but one must remember that those circulars were printed to attract customers for high-class and expensive insurance. Like most everything else in this world, if one paid a large amount of money for it, one would get a superior article, but one could not get a \$75.00 suit of clothes for \$25.00, and one could not be paid \$5,000.00 for the loss of an eye if the compensation was to be paid under the Workmen's Compensation Act and if the insurance was paid not by the individual who was injured but by the man who employed him and by accident insurance company. So arguments of this kind were worthless and had nothing to do with the case, and yet the speaker heard them indulged in by people frequently who did not understand the situation.

As a beginning, then, of a better and fairer basis and as a start toward introducing something that would enable doctors, industrial commissions, accident insurance companies, etc., to have something that might be used as a kind of working basis to go on, he proposed the adoption of this Springfield table, as modified by him, by the Chicago Ophthalmological Society. He believed that if we could only make a start and adopt this table, it would go a long ways toward assisting litigation and enabling interested parties in arriving at just and equitable conclusions concerning the subject of visual losses of one eye.

DR. FRANK BRAWLEY felt that there was some justice in what Dr. Allport said about taking one step at a time, but the Springfield table seemed to him to cover such a small portion of the subject that he did not think the Chicago Ophthalmological Society should really accept it formally. As a scientific body they should give it more thought and produce something better. The table presented by Dr. Gradle could be simplified a little, but to simply take one side of the question without considering all the absolutely essential things that came up every time one went to the board, was impossible. It did not take in the various things that made skilled labor—stereoscopic vision and various things of that type. He did not feel that the table the committee presented was so very complicated; it could not all be carried in the mind but a given case could be classified under its proper heading and then the calculation became very simple. If the Industrial Commission and the legislature would not accept anything but the Springfield table perhaps it should be adopted. In testing for depth vision a very simple plan had been worked out at the medical research laboratory where he was, something much more simple than the Hering test. Two sticks were used and placed at different distances apart and the subject told which was the nearest. This was fairer than the Hering test. The thing to be determined was not what an injured man had lost in vision but what he had lost in earning power.

DR. G. HENRY MUNDT liked Dr. Higgins' report; it seemed to be simple, he understood it, and he believed it was a table that they could really begin with. He agreed with Dr. Allport that it was only with considerable difficulty that the report of Dr. Gradle could be understood. He thought that instead of Dr. Allport's motion regarding the Springfield table it would be a good thing for the society to ask the committee, if it still existed, to bring in a table which might have a little better starting basis. The table should be based upon the percentage basis. They need not pay any attention to the Illinois law other than the fact that anything that they accepted should conform to that law.

In his opinion the time to determine the vision should be when the injury had been completely recovered from.

DR. OLIVER TYDINGS thought a third thing should be taken into consideration; they had heard about the insurance companies and the Commission, but he thought the tax payer had not been represented as against either of these. Whenever industrial damage was taken into consideration they, as a progressive, civilized body, must assume certain responsibilities. This would afford a working basis for the insurance companies, the Commission, and the people. Many people were dependent upon the state for a livelihood who had lost their earning ability through industrial accident. The community, as a whole, bore a larger percentage than either the insurance companies or the employers of labor. The community had borne it all in the past, except the little that could be obtained by long litigation. He felt sure that every employer of labor today, without an exception, would accept the Springfield table, but it did not do justice either to the community as a whole or to labor itself. He hoped with Dr. Gradle and Dr. Brawley that the matter would be deferred until the subject could be intelligently acted upon.

DR. SAMUEL G. HIGGINS thanked the society for the privilege of coming down to participate in the meeting and thought that among the things that had been arrived at was the fact that a complicated table could not be understood by any lay board. Therefore, he assumed that the society could well pass upon a point which they determined to be industrial blindness, and he would report to his society that 5/200 was a better standard than the 20/350 which they thought would be practical.

(To be continued)

FULTON COUNTY.

The eighty-ninth meeting of the Fulton County Medical Society was held in the auditorium of the Y. M. C. A. building at Canton, Ill., December 2, 1919, and was called to order at 2 o'clock by President E. P. Coleman.

The minutes of the October meeting were read and corrected to read, "Dr. Wm. Plumer," instead of Dr. W. E. Shallenberger, as member of the Legislative Committee and Dr. P. H. Stoops added as Necrologist.

Dr. D. S. Ray read a paper on "Tuberculosis Work in the County."

Attorney Hipler gave a very instructive talk on Medico-Legal matters.

Necrologist Stoops gave a report upon the death of Dr. J. M. Nellis, which occurred at his home in Canton November 20, 1919.

A card of thanks to the Fulton County Medical Society from Mrs. Nellis was read.

The secretary reported that the Fee Bill had not been printed yet but would be ready in a few days.

Twenty members and one visitor were present.

D. S. RAY, Secretary.

JASPER COUNTY.

The Jasper County Medical Society held its regular monthly meeting in the Grand Jury room in the Court House on December 5, 1919, with President F. W. Keuchler in the chair. Dr. C. E. Price, Councilor for this District, read a very interesting and instructive paper entitled, "The Physician as He Is and As the Laity Sees Him." This paper was very liberally discussed by most of the members present. Dr. Burt B. Hutton, Newton, read a paper entitled, "The Tonsils." A very able and interesting article on when and how to operate on the diseased tonsil and wherein the tonsil is the cause of many of the infections of other remote organs and tissues of the body. This paper did not call forth the discussion it deserved.

Considerable time was occupied by the members in discussing the new Fee Bill for the members in the smaller towns; the Newton physicians having already adopted a revised fee bill in July of this year, *i.e.*, \$2.50 for day visits, \$3.50 for night visits, \$1.00 for office consultation and other fees in proportion.

Before the meeting convened, Dr. Keuchler entertained the members and visiting guests at dinner in the New American Hotel. This was certainly enjoyed to the limit by all who were so fortunate as to be present. Ten members were present.

JAMES J. PRESTLEY, Sec.-Treas.

MADISON COUNTY.

Our November Meeting

The Madison County Medical Society met in the Majestic Theatre on November 14, 1919, Dr. Charles R. Kiser presiding. Thirty-six members and forty visitors were present.

The secretary announced that Dr. R. D. Luster had consented to act as campaign manager of the Red Cross Seal sale and invited the cooperation of all members.

On motion of Dr. Pfeifferberger, the secretary was given power to send to the Harrison Colony, at the

expense of the association, any person who upon investigation was entitled to our support, providing that all the rules and conditions of our association had been complied with. Three patients were found entitled to relief and were sent to the Harrison Colony.

Dr. W. H. C. Smith reported on the condition of the Williams family in Alton and upon motion the matter was referred to the Alton Public Health Council.

Miss Helen A. Heighway, the Community Nurse, read the report of her work during the month of October which was ordered published in *The Madison County Doctor*.

Dr. Hugh T. Morrison of Springfield gave a highly interesting lecture on "The Venereal Peril," which was illustrated by six reels of moving picture films. It was the best and most vivid portrayal of the effects of the great black plague, and was received with marked interest by an audience of over seventy doctors and laymen.

A health survey of all pupils in the schools of Highland was made on November 11 to 13, conducted by trained nurses engaged by the Board of Education. A written record of the physical condition of each pupil was made and those found defective were given a card, stating the particular defect. These cards were addressed to the parents of the defectives, asking for their cooperation and advising that the matter be referred to the family physician or to a specialist.

Our Community Nurse, Miss Heighway, assisted in this survey, particular attention being given to the discovery of tuberculosis in any of its various forms.

NORTHERN CENTRAL ILLINOIS MEDICAL ASSOCIATION

The Northern Central Illinois Medical Association met at the city hall in Streator, Dec. 2 and 3, when the following program was presented:

Necrological Report—Dr. Henry N. Barth, Metamora, by Dr. J. I. Knoblauch, Metamora.

"Fracture of the Skull" (symptoms and signs which require surgical interference)—Cassius C. Rogers, M. D., Chicago.

General discussion.

"The Fundus Oculi and Its Relation to General Medicine" (illustrated with lantern slides)—A. B. Middleton, M. D., Pontiac. Discussion opened by Burdette La Due, M. D., Ottawa.

"Acute Perforative Appendicitis as a Sequel to Influenza"—Frank W. Nickel, M. D., Eureka. Discussion opened by S. G. Peterson, M. D., Rutland.

"Mal-Practice Suits Against Physicians and Surgeons"—Clifford U. Collins, M. D., Peoria. Discussion opened by E. W. Weis, M. D., La Salle.

"The Long Interval in Two Cases of Skull Fracture"—E. S. Murphy, M. D., Dixon. Discussion opened by E. P. Cook, M. D., Mendota.

"The Modern Treatment of Cancer of the Uterus"—Henry Schmitz, M. D., Chicago.

General discussion.

"The Relationship Between Rectal Diseases and Systemic Infection"—J. Rawson Pennington, M. D., Chicago.

"The Surgery of the Stomach"—Alfred A. Strauss, M. D., Chicago.

General discussion.

"The Serum Treatment of Gas Gangrene"—Roswell T. Pettit, M. D., Ottawa. Discussion by R. I. Barackman, M. D., Streator.

"Acute Mastoiditis"—Harry S. Lester, M. D., Streator. Discussion opened by Chas. D. Thomas, M. D., Peoria.

"Encephalitis Lethargica" (sleeping sickness)—S. S. Winner, M. D., Chicago.

General discussion.

"Our Honor Roll"—Geo. A. Discus, Streator.

TUESDAY EVENING PROGRAM

Dinner at 6:30, dining hall, Elks' club.

Address of welcome—Mayor H. S. Lester.

Response—A. B. Middleton, vice-president, Pontiac.

Conferring of life membership on Elbert W. Oliver, M. D., of Chicago, by the president.

COMMITTEE ON BANQUET

H. S. Lester, M. D., chairman; A. N. McCord, M. D., Streator; R. I. Barackman, M. D., Streator.

COMMITTEE ON RECEPTION AND ENTERTAINMENT

Members of Streator Medical Club

PEORIA CITY MEDICAL SOCIETY.

The Peoria City Medical Society held its annual meeting at the Jefferson Hotel, December 16, 1919. The regular program was preceded by a dinner. Sixty-four members were present.

The President, Dr. Rolland L. Green, presided. Officers for 1920 were elected as follows:

President, Dr. W. A. Hinckle; first vice president, Dr. John F. Sloan; second vice president, Dr. Chas. G. Farnum; secretary-treasurer, Dr. A. J. Blickenstaff; censor for three years, Dr. O. W. Simpson; delegates, Dr. R. L. Green, two years; Dr. C. U. Collins, one year; alternate, Dr. W. B. Eicher.

Two excellent papers were read. Dr. Harry A. Durkin presented a paper on "Pernicious Anemia and Allied Conditions."

Dr. Sidney Easton, who was in the service in England and France, presented a paper on "Amputations."

A rising vote of thanks was given Dr. R. L. Green, the retiring president, in appreciation of his splendid work as head of the society during one of its most successful years.

A. J. BLICKENSTAFF, Sec.-Treas.

Personals

Dr. Lee C. Harlan, Madison, is convalescent after a severe infection of the hand.

Dr. Frank W. Broderick, who has recently been released from service, has resumed practice in Rockford.

Drs. Albert E. Mowry and Marcus S. Oliver announce the opening of an office at 25 E. Washington Street, Chicago.

Dr. Willis O. Nance, Chicago, was the guest of honor at the meeting of the Rotary Club of Kewanee, December 16.

Dr. James A. Kleinsmid, of Aledo, who has been seriously sick in Mercy Hospital, Davenport, is reported greatly improved.

Dr. Jesse R. Gerstley has returned from two years' military service in France and Germany and has resumed practice in diseases of children, in Chicago.

Dr. Edward L. Moorhead, clinical professor of surgery in Northwestern University Medical School, has been appointed chief of the staff of Mercy Hospital.

Dr. Josephus J. Brown, for nearly forty-one years a practitioner of Troy, has disposed of his entire business and property interests and expects to locate in California.

Dr. Charles B. Caldwell of the Peoria State Hospital has been appointed assistant superintendent of the Lincoln State Colony to succeed Dr. Thomas H. Leonard, resigned.

Dr. Frank Parsons Norbury, of Jacksonville, has been appointed consultant in neuropsychiatry for the Eighth District, U. S. P. H. Service, by Surgeon General Blue. The Eighth District comprises the states of Illinois, Wisconsin and Michigan.

Dr. Alice Barlow Brown, Winnetka, who spent a year in Belgium, supervising relief work, left Chicago, November 29, on a relief mission to Serbia. She was accompanied by Miss Lucy M. Morehouse, acting superintendent of the Evanston Hospital.

Harold Swanberg, Captain, M. C., U. S. Army, formerly of Quincy, who has been in charge for more than two years of the roentgen-ray laboratories of the U. S. Army general hospitals at Fort McPherson, Ga., and Fort Sheridan, Ill., has been discharged from the service, and has located in Chicago.

Dr. Carl E. Black, of Jacksonville, was the principal speaker at the dinner of the Western Surgical Association in Kansas City, last month. His subject was "Medical Education and Practice in Greece" and it was illustrated by 125 slides showing the work done by the medical department of the University of Athens.

Friends of Dr. William E. Quine, to the number of three hundred, gave him a complimentary banquet in the Red Room of the Hotel La Salle, Chicago, December 28. Dr. Frank Billings presided. Other speakers were acting president David Kinney of the University of Illinois and John D. Richard, an attorney.

Dr. Edward Bartow, professor of sanitary chemistry and director of the State Water Survey, has been awarded a medal of honor by the French Government for his work as chief of water analysis laboratories in France for twenty months. He introduced the chlorine treatment of water supplies for French cities in co-operation with Dr. Rene Legendre.

News Notes

—Geneva is to have a community hospital made by rebuilding the residence of the late B. W. Dodson.

—The Bulletin of the Montgomery County Medical Society has resumed publication after suspension during the war.

—Dr. J. M. Shearl is said to have formed a stock company to erect a sanitarium for the treatment of cancer in Williamsville.

—Dr. Lillian Hobbs Seymour was sentenced by Judge Kickham Scanlan, December 16, for murder by an illegal operation done three years ago.

—The Will County Medical Society at its last meeting discussed the establishment of a laboratory and a city public health department for Joliet.

—The Jacksonville State Hospital is to have an occupational building, for which \$15,000 was appropriated by the legislature. Construction is expected to begin soon.

—Macomb is said to have offered two sites for the location of a tuberculosis hospital for Mc-

Donough County. Residents of Bushnell think it would look fine in Bushnell.

—By the will of Robert L. Reid, who killed himself December 1, his body is bequeathed to his friend and employer, Dr. Augustus G. Haerther "For scientific purposes."

—Jackson Park Hospital is to be erected at Seventy-Fifth Street and Stony Island Avenue, with a frontage of 143 feet. The building will be T-shaped and will contain sixty-eight rooms and will cost \$150,000.

—The Aurora Medical Society entertained several members who had been in military service, December 3, at a banquet. Dr. C. E. Colwell acted as a toastmaster. Music was furnished by Dr. Hugh's quartet of Elgin.

—A building for the exclusive use of physicians is to be erected by Mr. J. Frank Deuel, at Rockford. The building will cost \$150,000 and will be equipped with a laboratory, drug and medical supply rooms, clinic suites, and garages.

—Dr. Eugene Cohn, on behalf of the Kankakee County Medical Society, proposed to the board of supervisors that the work of the county physician be done by members of the Society for the same pay, members to do the work in rotation.

—Medical Department Post No. 316 of the American Legion announces the election of the following permanent officers: Commander, Dr. John F. Van Paing; vice commander, Dr. Henry G. Lampe, and adjutant and treasurer, Dr. Thomas P. Foley.

—The American College of Surgeons acquired the former residence of S. M. Nickerson, at 40 East Erie Street, Chicago, December 20, for an Administrative Home. The funds were raised by citizens of Chicago, including many Fellows of the College. The building was a magnificent residence, one of the show places of the city.

—A Chicago paper recently ran a feature story about the "Gretna Green" antics of the people who flock to Waukegan to escape the strict marriage laws of Wisconsin. The traffic is said to net the city \$50,000 a year, which would doubtless soothe the feelings of the preachers and others who might be disturbed by such notoriety.

—According to a new item, Dr. H. N. Mettler, a chiropractor of Rock Island, recently con-

victed in the circuit court for treating human ailments without a license, was fined \$200 and costs, amounting to \$226.30. The case has attracted much interest among chiropractors all over the states of Illinois and Iowa and is expected to set a precedent. It is understood that Dr. Mettler will qualify for a license and continue his practice in Rock Island.

—Dr. and Mrs. Nathaniel H. Adams entertained the Oak Park Physicians' Club, December 8, the program consisting in addresses on pastimes for physicians. Dr. Poorman is said to have argued the benefits of golf. Dr. Hemingway was strong for the sylvan delights of the wild woods. Dr. Stewart demonstrated what handball would do to the physique. Dr. Good illustrated with the stereopticon how bowling on the green is sure to supersede that on the bar.

—At the annual meeting of the Illinois Tuberculosis Association, Dr. George T. Palmer, Springfield, was elected president; Drs. Herbert C. Jones, Decatur, and Moss Maxey, Mount Vernon, vice presidents, and the following physicians members of the executive committee: Drs. J. W. Pettit, Ottawa; E. W. Fiegenbaum, Edwardsville; W. M. Hartman, Macomb; N. C. Iknayan, Charleston, and Samuel L. Gabby, Elgin. The association passed a resolution adopting the standards of sanatorium operation of the National Sanatorium Association and the National Tuberculosis Association, and recommending the rating and scoring of all public sanatoriums in Illinois on these standards by the state department of public health.

Marriages

WILLIAM JOHN SCHOLES to Miss Myrtle Bonnet, both of Chicago, recently.

ALBERT E. CAMPBELL, Springfield Ill., to Miss Carrie Roberts of Decatur, Ill., November 26.

WALTER JAMES SULLIVAN to Miss Katherine Agnes Keith, both of Chicago, November 29.

ALBERT E. CAMPBELL, Springfield, to Miss Carry Roberts, of Decatur, November 26.

EMIL ARNOLD SCHLAGETER, Chicago, to Miss Agnes Clare McHenry, of New Richmond, Wis., September 18.

Deaths

MILO LEONARD KENSINGTON, Chicago; University of Illinois, Chicago, 1891; aged 72; died December 4.

HARRY SPENSER BROWN, Chicago; McGill University, Montreal, 1873; aged 73; died, November 26, from cerebral hemorrhage.

ELEANOR E. FISH, Chicago; Loyola University, Chicago, 1910; aged 50; died in a drugstore in Chicago, December 6, from organic heart disease.

JESSIE M. GREEN ESTES, Chicago; Saginaw Valley Medical College, Saginaw, Mich., 1902; aged 50; died November 28, from an overdose of chloroform.

JAMES L. NELLES, Canton, Ill.; McGill University, Montreal, 1875; aged 68; a member of the Illinois State Medical Society; died, November 20, from heart disease.

WILLIAM W. PEARCE, Waukegan, Ill.; University of Illinois, Chicago, 1885; aged 61; for four terms mayor of Waukegan; died, October 16, from carcinoma of the jaw.

JAMES CASEY, Chicago; Northwestern University Medical School, Chicago, 1902; aged 68; a member of the Illinois State Medical Society; died December 10, from chronic nephritis.

JAMES B. WILLIAMS, Chicago; University of Pennsylvania, Philadelphia, 1880; Hahnemann Medical College, Chicago, 1890; aged 62; a member of the Illinois State Medical Society; died, November 18, from arteriosclerosis.

WILLIAM H. PERRY, Carterville, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; aged 68; a member of the Illinois State Medical Society and president of the Williamson County (Ill.) Medical Society in 1913; died, November 15, from cerebral hemorrhage.

LEON THOMPSON BURGESS, Chicago; Jenner Medical College, Chicago, 1907; aged 46; whose license was revoked, Feb. 7, 1918, by the Department of Registration for violation of the medical practice act; died, November 15, from pneumonia following an automobile accident.

WALTER B. HELM, Rockford, Ill.; Northwestern University Medical School, Chicago, 1884; aged 60; a Fellow A. M. A.; president of the Tri-State Medical Association; consulting surgeon to Rockford Hospital; died in Wesley Hospital, Chicago, November 28, from pneumonia.

HERBERT A. YORK, Shabbona, Ill.; Northwestern University Medical School, Chicago, 1866; aged 75; an honorary member of De Kalb County Medical Society; an interne, Medical Corps, U. S. Army in the Civil War; a member of the Pension Board many years; died, December 14, from broncho-pneumonia.

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Original Articles

A JOINT REPORT OF THE OTO-LARYNGOLOGICAL FEATURES OF THE INFLUENZA EPIDEMIC AT CAMP HANCOCK, GA., SEPTEMBER-DECEMBER, 1918.*

MAJ. GEO. FETTEROLF, M. C., U. S. A.

PHILADELPHIA, PA.

and

CAPT. W. J. RIDEOUT, M. C., U. S. A.

FREEPORT, ILL.

At an officers' meeting held immediately after dinner on Sunday, September 29, it was announced by the Commanding Officer of the Hospital that telegrams had been received stating that in the course of the day two troop trains would arrive at Camp Hancock. On one of these trains were 50 sick soldiers, and on the other ninety. It was further announced that beds had been made available for these men and that the hospital was in every way prepared to receive them.

Early in the evening the sick boys began to arrive, and it was seen almost at once that the number would be far in excess of that indicated by the telegrams. From late afternoon till well into daylight next morning they came pouring in, brought from the railway station by ambulance and truck. When a count was made it was found that, instead of 140 sick soldiers, the morbidity on the train had increased with such speed and to such an extent that 770 men were brought to the hospital directly from these trains.

While a few sporadic cases had developed in Camp Hancock the real epidemic began, and in very stormy fashion, with this influx from the troop trains from Camp Grant. And a very sick lot of boys they were.

Almost at once were the specialized services of the members of the Oto-Laryngological Depart-

ment called for, the first complication requiring attention, consisting of many cases of violent and persistent epistaxis. As the days passed, other phases of the disease developed and had to be taken care of.

The main concern of the Department was the ear, especially in its suppurative and mastoid aspects. The present Chief of the Service at Camp Hancock was determined from the first not to leave out any detail which would promote the healing of acutely affected ears and prevent mastoid complications. In this he was ably and entirely supported by the members of his staff, by the Chief of the Medical Service and by the ward surgeons; by the former in ordering and carrying out the treatment decided upon, and by the others in co-operating in every way in carrying out the plans laid down.

In order that all such complications should receive prompt attention, a request early was voiced at an officers' meeting that all cases of ear pain be reported at once to the Department of Oto-Laryngology. This was to be in force both during the day and night. This request soon was found to be insufficiently broad, because in the first days of the epidemic it was noted that some middle ear cavities were found to be filled with pus, with the patient complaining, not of pain, but only of deafness and a sense of fullness in the ear. As a result of this observation it was requested that any patient complaining of any ear symptom whatsoever, even if only a sense of fullness, be immediately reported to the Oto-Laryngological Department. In order that no calls should go unanswered, an orderly was constantly on duty in the Head Section Building, one orderly sleeping in the building near the telephone. It was hoped in this manner to secure prompt 24-hour service, and such, in fact, proved to be the outcome.

By this plan nearly, if not quite, every patient who presented ear symptoms was seen by a spe-

*Read by Dr. Rideout before Jo Daviess County Medical Society Meeting, Nov. 13, 1919.

cialist within half an hour of the time notification of his condition was received by the Department.

In carrying out the detail of visiting the cases the hospital was divided into three equal parts and to each part was assigned one junior member of the staff. These men started in at 8 o'clock in the morning and made rounds of the portion of the hospital assigned to them. At each ward or tent group, the surgeon would see the cases which he knew required attention and would inquire as to whether or not there were any others. At 10:30 A. M. each man would telephone the clinic to find out if any emergency calls had been sent in from the portion of the hospital under his care. The night calls were answered by the officer on emergency duty, and when there was more work than he could handle, a second, and sometimes a third, member of the Department was called upon.

The Chief of the Department remained throughout the day in the Head Section Building, receiving calls and distributing them, and seeing, with the ward visiting surgeons, those cases on which the latter desired the opinion of the Chief.

The main difficulty met with in examining and treating the patients was in securing adequate illumination. When it was realized that at least two-thirds of the sick boys were on porches or in tents, the force of this statement will be more fully realized. When ever possible, sunlight and diffuse sunlight were used. Frequently the patient would be in such a position in the ward, porch or tent, that the rays of the sun could be focused by the head mirror on the region being examined. This made an ideal light and was taken full advantage of. Diffuse daylight could be used in examining throats, but, of course, was of no value in examining the nasal cavities and ears.

The usual source of illumination was oil lanterns, with which each ward and tent group was provided. This was very satisfactory in the wards, but on porches and in tents the presence of so much diffuse sunlight rendered impossible clear illumination of the nasal chambers and of the external auditory canal and ear drum. This difficulty was overcome by having orderlies hold a blanket around the surgeon and patient, thus making a screen and forming a dark room and cutting off sufficient daylight to allow the re-

flected light from the lantern wick to illuminate with all necessary clearness the parts being examined.

A second handicap was the impossibility, on account of the relative shortage of nurses and orderlies, of carrying out in detail the routine ear treatment which was in force in the hospital.

Oto-Laryngologists agree that in all cases of acute tubotympanic disease treatment of the nose and naso-pharynx is advisable, not to say imperative. Under the conditions in which this epidemic was handled, it was utterly impossible to administer such treatment. The nursing and orderly staffs were driven to the utmost in order to carry out the fundamental necessities of general treatment, and neither personnel nor appliances were available for nasal treatment. Almost to a man, the cases of ear involvement went through the attack with no treatment except to the ear, and so successful was the outcome that one is tempted to question the vital necessity for nasal and naso-pharyngeal treatment as a routine measure in acute middle ear disease.

As stated above, the main concern of the Department was to minimize to the utmost the effects of involvement of the ear. For each case of acute otitis media, whether open or closed, it was endeavored to have administered the simple treatment described below. On account of the wide scattering throughout the entire hospital of these cases, the amount of time required to administer the treatment, the shortage of skilled nursing and the lack of paraphernalia, it was not possible in all cases to have it carried out. When it is realized that the number of patients in the hospital jumped in a few days from 1500 to nearly 5000, the obviousness of these difficulties will be appreciated. In addition, three members of the Oto-Laryngological Staff were victims of the influenza, non fatal however, but nevertheless throwing a heavy burden on the rest.

•This routine treatment was as follows:

1. Absolute rest in bed.
2. Irrigation of the ear every 4 hours with 2000 c.c. of hot normal salt solution. The more severe cases received irrigations every three, and even every two hours.
3. Filling of the ear with hot solution of phenol (10%) and glycerin (90%).
4. Filling the ear loosely with absorbent cotton.

5. Covering the ear with a large wad of absorbent cotton which was bandaged in place.

6. Keeping a hot water bottle constantly against the ear. As the ear improved, first the heat, then the bandaging, and finally the irrigations were dispensed with.

As a result of the prompt system of notification of the Department of all cases presenting ear symptoms, practically every case was seen in its earliest stages. If the ear drum was found to be normal in contour, the treatment described was ordered. If the slightest amount of budging was present, the rule following was to incise freely and at once. Each ward visiting surgeon carried with him the appliances for performing this little operation. There is no doubt that there may have been opened some middle ears which would have gone on to resolution without complications or sequelæ, but it is certain that there were no ear drums needing an incision that did not have one.

When an anesthetic was used, it was the usual mixture of equal parts of cocaine, phenol and menthol. Sometimes it was effective and sometimes it was not. When the patient was very nervous and time would allow for it, an attempt was made to benumb the ear drum with this solution. Otherwise the drum was opened without an anesthetic.

The results of our plan of procedure can best be shown by reference to the figures for October, November and December. The real epidemic began, as stated above, with an influx of patients on Sunday, September 29, seven hundred and seventy cases being admitted to the hospital on that day and during the night following.

During October many hundreds of ear cases were seen in bed and in clinic. On account of the hectic conditions under which every one was working, it is impossible to give the exact number. During November the number was smaller and during December it was smaller still—a total of approximately 900.

In the three months there were 322 cases requiring myringotomy. In a few instances a second incision had to be made, and on still fewer a third. Of these cases 202 required incision of the ear drum in October, 89 in November, and 31 in December. Many of these developed tender mastoids. When the latter condition appeared a special endeavor was made to have the patient

transferred to a ward where the routine treatment described above could be administered. The result was a most happy one, as not a single one of the October cases required a mastoid operation, the report for that month reading:

Myringotomies 204

Mastoidectomies 0

There were no cases of sinus thrombosis and none of otitic meningitis; in addition none of the acute suppurative middle ear cases became chronic, every one ending in a dry ear and a healed perforation.

By the following month (November), the epidemic was on the wane, and the work of the Department had lightened materially. The November report read as follows:

Myringotomies 89

Mastoidectomies 4

Only two mastoid operations followed influenza, and both of them occurred in one soldier. This boy was a very septic specimen, with a negative Wassermann reaction. First, (October 24, 1918) he developed a large external peri-chondritic abscess of the thyroid cartilage, which was opened and drained. This was followed later (November 13, 1918) by a mastoid abscess of the left side, and still later (November 16, 1918) by the same condition on the right side. Both of the other November mastoids were cases in which the middle ear became involved in the course of an acute coryza.

In December there were five mastoid operations performed, and two of these were post-influenzal, two post-measles, one post-coryza. The December report was as follows:

Myringotomies 31

Mastoidectomies 5

In this month the influenza incidence was very low until about the middle of the month, when there was a slight recrudescence of the disease. The great majority of the cases in December developed in connection with either a coryza, measles or scarlet fever.

These figures, in the minds of the writers of this report, constitute rather a notable showing. The total admissions of influenza cases to the Base Hospital for the month of October were 6,553. In November there were 1,162, and in December 66, making a total of 7,781. In addition to this, during those three months, there were 426 admissions for measles and 418 for

scarlet fever. Added to these, there were a large number of cases admitted on account of ear or throat or nose conditions alone. From this large number resulted only eight cases requiring mastoid operation, one of these being bilateral, thus making nine operations in all. It might be added that all of them healed in the usual four to six weeks, with no complications or threatened sequelæ. One of them developed decided weakness of the facial muscles of the affected side, but shortly after the mastoid was cleared out the symmetry of the face returned to normal.

ADMISSIONS*

Months	Influenza	Measles	Scarlet Fever	Myringo- tomies	Mastoid Operations
Sept.-Oct.	6,553	145	6	204	0
Nov.	1,162	215	401	89	4
Dec.	66	65	11	31	5
Total	7,781	425	418	324	9

MASTOID OPERATIONS

Months	Post- Influenzal	Post- Measles	Post-Scarlet Fever	Post-Coryza
Sept.-Oct.	0	0	0	0
November	2	0	0	2
December	2	2	0	1
Total	4	2	0	3

*From September 29 to October 31 inclusive.

It is barely possible that during the fall and early winter of 1918 the organisms which attacked the upper air passages had a very slight selective affinity for the mastoid. The notable escape of the tympanic adnexa from serious trouble at first tended to support this view. But as the season advanced and the acute exanthemata began to come in in increasing numbers, and still the mastoid incidence remained negligibly low, it seemed justifiable to assume that the prompt and careful treatment accorded all ear cases was the dominant factor.

It is quite probable that this low percentage of mastoid-ectomies could hardly prevail in civil practice, because such immediate and painstaking treatment would not and could not be obtained. One factor in this would be that ear affections frequently are considered to be trivial matters by a certain element both of the medical and lay population. Furthermore, it should be realized that the soldier patient is under orders, and is obliged to submit at once to whatever treatment is deemed best for him, with no opportunity afforded him of refusing or postponing the measure decided upon by his officer surgeon.

In the external ear there developed only a few

(17) cases of furunculosis and a large number of serous or sero-sanguineous blebs, the latter being the condition called by Politzer otitis externa hemorrhagica.

Otitis externa hemorrhagica. This condition was found almost exclusively in the influenza cases and always confined to the osseous portion of the external meatus. Sometimes the blebs would be of a purplish hue and at other times clear and watery, resembling on the one hand a "blood blister," or, on the other hand, an ordinary blister. At first they were routinely incised, but later they were left alone unless they interfered with inspection of or drainage of the middle ear. Quite frequently they were found to be as sensitive as in the ear drum.

In view of the two distinct varieties of blebs found, it might be more accurate to modify and enlarge the terminology of the condition as follows:

Otitis externa bullosa:

(a) Serosa

(b) Hemorrhagica

Epistaxis. But one obtruding condition was found in the nose and that was profuse and persistent epistaxis. In every case but one the bleeding point was located at the anterior part of the septum, the so-called locus Kiesselbachii. In the one exception, a spurting artery was observed on the lateral wall of the nose at the anterior end of the inferior turbinated body. The incidence of epistaxis was the greatest in the first influx of cases. These boys were brought in directly from the troop trains after two days or more of travel, with limited bathing facilities, and it is believed that the irritation and excoriation of the nasal mucosa produced by the train dirt was an important factor. Epistaxis became much less frequent in the later days of the epidemic, when the cases were developing in soldiers who had been in camp for several days.

Sinusitis. The incidence of sinusitis was exceedingly low. Exact figures are not at hand nor are they obtainable. When a case of this sort developed, a routine spray of adrenalin chloride 1:7000 was given every hour, and when the pain was severe the middle meatus was packed for half an hour or more with cotton pledgets saturated in the same solution. All of these cases returned to normal and none required operation for their relief.

Tonsils. There were very few cases of tonsillitis and still fewer of peri-tonsillar abscess. During the months of October, November and December there were but 25 cases requiring the evacuation of pus.

Larynx. Laryngitis was present in quite a few cases and the manifestations in the larynx were of three different types: 1, Diffuse catarrhal laryngitis, with the usual appearance found in this condition; 2, ulcerative laryngitis, with small, narrow, superficial ulcers running lengthwise of one or both cords, and 3, what might be called "Asthenic laryngitis."

A section of ulcerated cord from a case of type 2 was submitted to the pathologist, who reported on the specimen as follows:

"Section shows mucosa with an irregular loss of substance, with submucosa exposed, which with muscle tissues still deeper is infiltrated with polynuclear leucocytes. Diagnosis: Acute inflammation of vocal cords with ulceration."

The last form (3) deserved a more detailed description. It was found almost entirely in a group of cases which came from among the soldiers who had been in Camp Hancock for some time. It was characterized by a normal or slightly reddened mucosa, absence of ulcerative lesions and mainly by a marked weakness of the laryngeal musculature. An attempt at phonation would result in a feeble effort to approximate the vocal cords and an immediate discouraged return of the cords to the respiratory position. A similar condition of the palatal and pharyngeal and probably of the esophageal musculature usually was found to be associated with it. The muscular efficiency of the entire throat was very low and it was tested out in one patient by having him endeavor to swallow a large mouthful of water. The effort at deglutition immediately was followed by a gush of water from his nose and by cyanosis. It was evident that the muscles neither of the soft palate nor his larynx had the strength to close off the entrance to the cavities which they guard. In a short while he was able by a few weak coughs to clear his larynx and trachea, but for the moment it looked as if he was in imminent danger of suffocation from the water which he was unable to prevent from entering his trachea and then was almost unable to expel from it.

The actual cause of this condition could not

be determined. Possibly it was a toxic myositis, possibly just a part of the general asthenia, possibly it was due to toxic poisoning of the centers in the medulla, really constituting an acute form of bulbar paralysis.

The members of the Oto-Laryngological Staff feel that they were in great good fortune to have been at Camp Hancock during the epidemic. Rarely does a physician or even a collaborating group of physicians have an opportunity of studying synchronously such a large series of cases occurring in people of approximately identical age and living under uniform clothing, housing and dietary conditions. Usually observations on a large number of cases must extend over a long term of years and under such conditions early impressions and conclusions are likely to grow hazy and later ones assume undue prominence and force. While necessarily conditions in this epidemic were such that accurate record of all phases of the influenza was impossible, still it is felt that so careful an estimate has been made where accurate records were not obtainable that conclusions drawn can fairly be considered as being based actually on numerical fact.

Dr. Rideout reported the following case to illustrate what may occur from carrying out this line of treatment too conservatively. No doubt earlier mastoidectomy would have prevented the numerous metastatic sequelæ that ensued.

B—— N——, Pvt. Co. 2, Dev. Gr. Camp Hancock, Ga. Born in Miss. Age 22. White. Admitted 12/14, 1918. Service 5/12 yr. Occupation, farmer. Habits as to alcohol, abstainer.

Family history: Father and mother living and well. Two brothers and 3 sisters living and well.

Previous personal history: Influenza in Oct., 1918. Whooping cough in childhood.

Venereal history: Gonorrhea 5 mo. ago; discharge 3 mo.

Objective symptoms—Condition on admission: Acutely ill with cough, etc. T. 104. Weight, normal, 170. Present, 180. General condition, good muscular development. Special senses, moderate conjunctivitis. Skin and mucous membranes: Maculo-papular eruption over entire body.

Glandular system, slight cervical adenopathy. Vascular system, negative. Blood pressure, not taken. Heart, borders normal, no murmurs. Lungs, no dullness; fine moist rales in both bases. Genito-urinary system, apparently negative. Abdomen, liver and spleen not palpable; no tenderness or masses.

Nervous system: Reflexes normal.

Diagnosis, measles. Hemolytic strep. found in throat culture.

12/30, 1918. Developed Ot. Med. Sup. Ac. right. Myringotomy performed. No hem., strep. found.

1/1, 1919. Myringotomy left ear.

1/9, 1919. Myringotomy repeated on right ear.

First mastoid tenderness reported 1/2, 1919. Drainage fair, but mastoid tenderness continues.

1/11, W. C. count 15,600; 1/13, 20,400.

1/14, 1919, mastoidectomy, perisinous abscess, ruptured and collapsed sinus; removal of clot from upper portion with free bleeding. Operation discontinued on account of almost moribund condition of patient. Hem. Strep. in pus. Leucocyte count, 1/11, 156,000; 1/13, 20,400.

1/15, 1919, subnormal temperature, A. M.; increased P. M. Cyanotic appearance. Tenderness over right sterno mastoid, slight swelling. Right wrist painful and somewhat swollen.

1/16, 1919, leucocyte count, 29,000. Resection of right internal jugular containing thrombus. Hemolytic staph. recovered from specimen. Specimen 3 in. in length. Pathologic report, septic ends and periphlebitis acute.

1/19, 1919, left knee joint swollen and tender. Diagnosis, probable septic arthritis, metastatic.

1/20, 1919, left knee joint aspirated; no fluid obtained. Left knee joint very much swollen and tender. Operated, 105 cc. of straw-colored fluid withdrawn (semi-turbid). Dakin's treatment begun. Left ear gave no trouble following myringotomy of 1/1.

1/22, 1919, leucocyte count, 25,250. Large bronchial rales and some small dry rales scattered throughout chest. No evidence of pneumonia. Diffuse acute bronchitis present. Right mastoid and neck wounds healing nicely. Right knee has given him his greatest discomfort during past 3 days.

1/23-1/26, 1919, leucocyte count ranged from 24,000-28,500.

1/29, 1919, leucocyte count ranged 17,250; knee condition improving.

2/1, 1919, leucocyte count ranged 11,350; marked general improvement.

2/4, 1919, some swelling over right sterno-clavicular articulation, which subsided in a few days following local treatment. Mastoid and neck wounds healing; knee condition better and patient apparently improving in every way until 2/20, when an ac. sup. ot. med. developed in left ear. Myringotomy performed (left).

2/21, 1919, marked mastoid tenderness.

2/22, 1919, increased mastoid tenderness. Leucocyte count, 26,900. Some swelling below tip; suspicion of phlebitis. Mastoidectomy (left). Thick cortex, pus in deep cells. Puncture of lateral sinus, free flow venous blood.

2/24, 1919, lung ex. Some high pitched breath sounds, somewhat altered voice, very few rales; no definite signs of pneumonia.

2/25, 1919, temp. past 24 hrs. 101.4-103.2. Diagnosis pneumonia. Pulse past 24 hrs. 120-144 Staph, albus and Hem. strep. in mastoid pus.

2/26, 1919, all surgical wounds doing well. Apparent

slight improvement of condition generally. Temp., A. M., 102; N., 101.6; P. M., 102.6. Pulse, 144

2/27, 1919, blood culture of Feb. 24, Pneumococcus, Type 4. All surgical wounds healing nicely. T., 100.6-101.6; pulse, 124-132; respirations, 30.

2/28, 1919, T., 101-101.2; pulse, 120; respirations, 30-32.

3/1-3/7, 1919, temp. gradually subsiding, 99-99.6 past 3 days. Pulse 100-108. Improving in volume. Respirations, 22-24. Patient apparently on road to recovery.

3/12, 1919, convalescing slowly. Able to sit up in bed one hour each day for past 3 days.

3/13, 1919, patient complains of some pain in left chest. Reported empyema.

3/14, 1919, X-ray taken. Confirms diagnosis of empyema.

3/14, 1919, Rib resection, 8th rib resected; 500 cc. of pus removed; 3 Dakin tubes inserted.

3/14, 1919, 3 P. M., some pain near McBurney's point. Diagnosis appendicitis made.

3/14, 1919, 9 P. M., under spinal anesthetic did appendectomy.

3/15, 1919, general condition good. Dakin treatment started for the empyema.

3/20, 1919, patient making a normal recovery. Left mastoid wound completely filled with granulation tissue and healing normally.

A letter was received from this patient under date of July 15, in which he stated he was feeling quite well and had received a disability rating of 50% from the Government.

SPASMOPHILIA.*

J. WARREN VANDERSLICE, M. D.,
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The clinical fact that infancy and early childhood are much more frequently attacked by convulsive disorders arrested the attention of clinicians long ago and gave rise to any number of theories as to the cause.

The first really scientific work was that of Soltmann, who found by experimental investigation, that in new born dogs, cats and rabbits the motor cortical areas cannot be excited and are probably incapable of functioning. He concluded that they are incapable of exercising either an innervating or an inhibiting influence on subcortical motor centers. In order to apply these discoveries to the human newborn he compared the medullary striation in the animals experimented upon and in human infants. Soltmann's investigation

*Read before the Aux Plaines Branch of the Chicago Medical Society.

showed that the human infant requires from twelve to eighteen months to attain the development of an animal from ten to twelve days old, at which time irritation of the cortex produces contractions of muscles on the opposite side of the body. These results appeared to explain the greater frequency of convulsive disorders in the human infant. Another interesting result shown by these experiments was that the nerves of newborn animals are much less irritable than in the adult.

Not until quite recently have any additional facts or possible theories been brought forward. In 1899 Thiemich pointed out what he termed an individual pathologic spasmophilia; this is characterized by exaggerated mechanical and electrical irritability of the peripheral nervous system before and after the convulsions and in the interval of freedom from the attacks. Children of this type are peculiar in the behavior of their peripheral nerves, so that one is justified in speaking of a special nervous state, which prior to this had been termed a tetanoid condition.

In 1904 Baginski wrote his thesis on this subject and to which he gave the title "Spasmophile Diathesis." In this paper he grouped all of the convulsive disorders without anatomical basis and which may be recognized by a measurable mechanical and electrical over-excitability of the nervous system.

This exaggerated irritability which constitutes the peculiarity of spasmophilia can be demonstrated in one or several peripheral nerves by simply tapping the nerves with the percussion hammer at accessible points, such as, for example, the well-known nerve points of Erb. The phenomenon is most clearly seen in the facial nerve, the tapping of which produces unilateral contractions of the muscles of the face—the so-called Chvostek sign.

As no clinical method has been devised by which the mechanical irritability may be measured, electrical examination gives a more exact means of determining the varying irritability of these nerves. Erb had already noted an increased faradic and galvanic irritability in the tetany of adults. These were confirmed in infants and by a series of comparative investigations on a large number of children which yielded a typical law of contracture. Without going into the many reactions it may be stated that the kathodal open-

ing contraction in the normal is above 5 m. a., while in the spasmophilic it is under 5 m. a.

Using this test it is found that there may be grouped under the term of spasmophilia these conditions which previously have been classified as eclampsia, laryngismus stridulus, tetany, apnea, etc.

The etiology of the condition is as yet in the theoretical stage. Researches on the nervous system have not disclosed any characteristic changes, those coming to postmortem showing only a passive congestion of the central nervous system. Czerny instituted a series of chemical examinations of brains which disclosed a diminution of the calcium salts in the brains of tetanic children; other investigators have found abnormalities of the metabolism of the alkaline salts.

Undoubtedly heredity frequently plays a very important rôle. Spasmophilia is frequently met with in families with a neuropathic taint. There can be little doubt that digestive disturbance is frequently an exciting cause of the individual attack.

The disorder is far more frequent in the artificially than in the naturally fed infant. The acute disorders as well as chronic appear to increase the tendency toward the affection.

The theory of perversion or disturbance of the parathyroids and the experimental production of spasmophilia in animals is as yet entirely upon experimental ground.

There is no doubt that these cases are far more frequent in the winter and early spring than at other seasons.

Symptomatically spasmophilia may be divided into such groups as distinct entities; eclampsia, laryngo-spasm, tetany and those cases without clinical manifestation which are discovered only upon examination.

The eclampsia of infants consist of localized or more commonly general convulsive seizure that until recently were regarded as a form of epilepsy characterized by the patient and the favorable clinical course; these cases tending toward complete recovery during early life. The attacks consist of a primary tonic with a secondary clonic stage. There appears to be a kind of aura; the child becomes restless, inattentive and anxious. This stage lasts from a few seconds to a few minutes and is followed by a sudden pallor of the face, loss of consciousness, and a tonic convulsion

of the face which may or may not extend to the entire body with each paroxysm as Soltmann expresses it "as though a powerful electric current were passed through it." The respiration has a staccato type, often audible, approaching a cry. There is considerable cyanosis and profuse perspiration. Gradually the convulsion subsides into a general relaxation and return to consciousness, but is not usually followed by the sleep which follows the epileptic seizures.

In severe cases there may be a massing of attacks and one seizure follow another in succession and one may use the term status eclampticus as an analogue to atatus epilepticus.

The convulsions of spasmophilia may appear but once, but this is the exception. Usually the attacks are repeated but the intervals show the widest extremes of irregularity. The seizures may occur daily, twice a day, twenty times a day or at intervals of weeks or months.

The attacks often show evidence of being precipitated by some acute disorder or reflex irritation. Death during the eclamptic attack is relatively rare as compared to laryngo-spasm.

There is no rise of temperature in the uncomplicated attacks of spasmophilia and its presence should attract the attention to some infection.

The second form of spasmophilia is laryngo-spasm glottidis. This in its milder manifestations presents itself as a mere strident, protracted, crowing inspiration. In severe cases the closure of the glottis is so complete that symptoms of asphyxia—anxious expression of the face, cyanosis, short clonic contractions of the facial muscle and upper extremities ensue until the spasm is relieved by a forcible inspiration. The attacks are frequently induced by a disturbance of the child, especially by laughing or crying and in some cases the act of nursing irritating the glottis sufficiently to inaugurate an attack. The inspiratory stridor of laryngospasm is characteristic and whenever in a crying infant each inspiration is audible as a distinct crowing sound, spasmophilia should be suspected. The disturbance of laryngospasm is inspiratory; there is a distinct interference with inspiration and the spasm of the glottis may, and undoubtedly does, in the severer attacks, extend to the diaphragm. These cases which are given the term expiratory apnea place the infant's life in extreme jeopardy and is not an infrequent cause of death.

With the delayed inspiration there is a marked slowing of the heart beat and at times there is an apparent cessation of the heart sounds for several seconds. The increase in the frequency of the heart beats usually anticipates the relief of the apnea momentarily. As the spasm relaxes a long crowing stridor accompanies the prolonged inspiration; deeper inspirations follow and the stridor diminishes as normal respiration is established.

Where the case terminates during the spasm artificial respiration is of no avail as death is caused not from respiratory, but cardiac stoppage. The plunging of the hypodermic needle into the heart muscle may stimulate the heart to further activity.

The attacks of laryngospasm show the same extremes in frequency and severity as seen in the eclamptic cases.

The third group—tetany.

This type is characterized by tonic convulsions of the extremities; they are frequently accompanied by paresthesia of the affected limbs and consciousness is always preserved.

The hands tend to assume the obstetrical position with thumbs bent upon the palm, the fingers flexed over the thumb and fingers in extension. It is usual that the arm is flexed upon the trunk; the forearm and hand flexed. Where both uppers are involved the patient takes on the position assumed by a dog when begging. The lower extremities are not so frequently attacked, but when they are, they are usually flexed at the hip and knee.

These appear suddenly and may last for hours and even days, but usually last about one hour. Any effort made to overcome the spasm elicits great pain, but if allowed to remain contracted patients do not appear to suffer greatly.

In the severer attacks the convulsions may extend to the face and neck when the patient has a rigid expression, with wrinkled brow and a protruding mouth like a snout. The feet have the typical position of varus or equinovarus with pes cavus.

Among the rarer groups of muscles involved are the sphincters of the bladder, the muscles of deglutition, pupils, and eyes.

The mechanical irritability of tetany has been described under the terms of Chvostek's and Trousseau's signs.

Chvostek showed that by the tapping of the cheek there was caused a rapid contraction of the muscles just as though the nerve had been electrically stimulated.

Trousseau pointed out that if the nerves of the arms were compressed that it would cause the hand to assume the characteristic contraction of tetany.

The presence of either of these signs is diagnostic of tetany.

Chvostek's sign is more frequently used for diagnostic purposes; there is some objection to the common use of Trousseau's as it is more painful and might inaugurate an attack of laryngospasm.

Spasmophilia tends to run a prolonged course and the progress of the disease is extremely irregular.

Treatment. The prophylactic treatment consists of maternal nursing, sunlight and fresh air.

Dietetic. The most valuable of curative agents is believed to be human milk. There is little doubt that the disorder is one of nutrition and improper feeding has an important place in the etiology, and the return of the patient to breast feeding does lessen the mechanical and electrical irritability.

When breast feeding is impossible there appears to be no special milk diet which is to be recommended for all cases; although it is generally conceded that the whey of cow's milk is an element of danger. It is advisable to use other than milk as soon as possible and eggs and meat juices are early substituted for the milk; cereals, bread, butter and vegetables given at an early age.

Medicinally the calcium salts have been used rather generally and those who were the most enthusiastic for their use still maintain that the failure was due to insufficient dosage. That where five grains were given three times a day, twenty to thirty grains should have been given. Calcium lactate and calcium chloride are the salts most frequently used.

Cod-liver oil with phosphorus is recommended as is also the parathyroid extract.

For the attack it is recommended that the alimentary canal be well cleared by a full dose of castor oil followed by the giving of bromides and chloral.

All food should be immediately stopped and only water be given for twenty-four hours.

There is a large group of these cases that occur in the newborn that may be diagnosed as spasmophilia both by the mechanical and electrical reactions.

These cases on going to post mortem show no other cause of death.

These children are usually normal children at birth, but at the end of twenty-four to forty-eight hours they show signs of spasmophilia. The form which these cases assume is usually either the eclamptic or the laryngospasm type.

About four years ago there appeared an abstract in the *Journal A. M. A.*, in which these cases were described and the author recommended the giving of these cases two ounces of water every two hours by nasal feeding.

As the prognosis in these cases prior to that had been far from satisfactory it seemed best to try the treatment, as the author was enthusiastic and gave quite a glowing account of the results obtained.

Since that time this treatment has been the routine treatment in all cases, with a considerable degree of success. The treatment has been modified to the extent of adding five grains of citrate of soda to each feeding.

What effect other than the giving of plenty of water it has is not apparent; but it was assumed that there might be some stimulation of the solar plexus and for this reason the water used, had simply the chill taken out so that there was a temperature as well as a mechanical shock.

With this treatment no other drugs were used and the irritability disappeared in twelve to twenty-four hours.

Of the unsuccessful cases it may be said that the treatment was not carried out either because of too early termination of the case, or the inability from one cause or another to have the feedings given.

155 North Ridgeland Ave.

THE INFLUENZA AND ITS RELATION TO SEPTIC LARYNGITIS.

CHARLES H. LONG, M. D.

CHICAGO

The stirring events of the last five years have been followed by a very infectious disease—the so-called “influenza.” It has traversed most of the habitable globe; attacking the rich, the poor,

the old and the young irrespectively. Directly or indirectly it has been the cause of more deaths than have occurred on all the battle fields of Europe during the late terrible conflict. But this has ever been so; for tradition informs us that epidemics of some devastating disease has followed in the wake of every great war that the world has known.

The press, both lay and medical, has published volumes containing an immense amount of information on the influenza's various phases, etiology and treatment; but up to the present time no investigator has supplied us with a positive proof of its cause nor a specific remedy for its cure. Although many observers have furnished plausible evidence that the *Bacillus* of Pfeiffer or a filterable virus—or both, are the true causative agents of this disease, there are others equally certain that neither this organism nor its virus are in any way responsible.

Julia T. Parker of New York, experimenting on rabbits, claims that the *Bacillus influenza* generates a filterable virus which is rapidly produced, quick to deteriorate, and capable of producing immunity; and that the serum of these immune animals is antitoxic—while on the other hand, Schofieldt and Cynn experimenting on humans were not able to verify her experiments.

After a most thorough sifting of all the latest reports at my command, the consensus of opinion would eliminate the Pfeiffer *Bacillus* as a factor either directly or indirectly responsible for the present pandemic disorder. Nearly every one admits it is a disease developed from some specific infection similar to that of cholera, typhoid, measles, or whooping-cough; that it is carried from place to place by persons, and that its spread is due to its great infectivity, its short period of incubation, missed and obscure cases, the absence of timely prophylactic measures; and that immunity can be secured for at least two months by a previous attack.

After all that has been said and all the work that is being done it would not be surprising if some one would make the discovery that the *Bacillus influenza* is in some way concerned with the disease; and that either a new or more active and virulent strain had been evolved, or that some new processes may be developed to prove its presence.

The clinical symptoms of influenza are modified in accordance with the organs affected, the

species of bacteria present, and the resistance of the tissues. For instance, the nasal sinuses, the tonsils, pharynx, larynx and bronchi may become infected one after the other, or the whole respiratory tract may be involved at the same time. In the slowly spreading type we have more time to intelligently study our cases and in so doing think we make for a more favorable prognosis. Where the acute fulminating types attack with lightning rapidity, life itself is periled before any effective treatment can be applied. When either of these types get a foothold in the larynx it is always a serious matter; very moderate inflammatory conditions in this location may cause suffocation and death when least expected. The bacterial factor is always important in the treatment and prognosis—when a specific organism such as Klebs-Loeffler or tubercle bacilli are found, we at once have recourse to a routine treatment; but when the septic process is due to more specific variations of pathologic micro-organisms such as the streptococcus, staphylococcus, pneumococcus, and a host of others, we are more or less helpless in our efforts at applying exact and scientific treatment. We may use a "polyvalent" serum, or be ready with intubation or tracheotomy in the lightning cases; while in the slowly spreading and more extended cases we make every provision for emergencies—not neglecting autogenous vaccines nor other general aids to hasten recovery.

The following case commencing as an influenza, presents symptoms of a "cross infection," spreading from one structure to another, ever increasing in virulence until on reaching the larynx it nearly terminated his existence by suffocation—the septic condition being so severe:

On October 31, 1918, L. P. N., male, a ship-carpenter, aged fifty-two, was referred to me by a tuberculosis clinic thirty-four days after the initial attack. The patient complained of frequent and prolonged attacks of coughing with difficulty in breathing and swallowing. September 27, 1918, while pursuing his duties at the shipyards, he became so ill that he had to go home to bed. He suffered chills, headache, and a sore throat. With the aid of a mirror he examined his throat and discovered white spots on the left tonsil. After three or four days in bed and the application of home remedies he resumed work. October fourth he suffered a relapse, the same symptoms recurring. Examining his throat again he found the right tonsil covered with white spots. Becoming alarmed at his condition he called a physician who made a diagnosis of influenza. He now developed a cough with a considerable amount of expectoration, though otherwise he was fairly comfortable. After a few days, October 25, the cough and expectoration became intolerable and he changed doctors. A few days later with no change for the better, he decided to

dispense with medical aid altogether and try going back to work, as he expressed it—"to work the sickness off." But he found this impossible, the coughing, choking, and great prostration compelled him to abandon all work and again seek medical aid. Fearing that his cough was tubercular, he visited a tuberculosis clinic where he was advised to consult a throat specialist. On October 27 I found him suffering from paroxysms of coughing, expectorating great quantities of frothy mucopurulent secretions—often streaked with blood. The voice was husky and the respirations labored. The throat was so sensitive and irritated that cocaine was used in the examination of the larynx. The epiglottis was moderately puffed and beneath it the tissues were edematous and covered with a slimy sticky secretion which obscured a view of the vocal cords. His general appearance suggested great physical distress. The features were pinched and wan; the lips were blue; he was nearly exhausted from lack of food and loss of sleep. The coughing had been almost incessant for the last forty-eight hours, and swallowing was so painful that he preferred hunger to the pain.

Treatment—The patient was immediately sent to the hospital. The examination of chest, blood, and urine were normal. The sputum contained pneumococci. Aside from rest in bed and an expectant plan of treatment nothing was done. To our great surprise within a couple of days the expectoration suddenly ceased, also the cough, and he commenced to eat and swallow without distress—and the patient was well.

Conclusion—While the obituary columns of our daily papers are teeming with deaths, believed to be due to influenza, we as physicians know that this disease is but the indirect cause—it is the complications and sequences that kill. This history of this case would seem to indicate a simple bacterial infection of the pneumococcus species, which succeeded or accompanied the attack in the nose of the influenza organism then slowly extending to adjacent parts, it developed symptoms more or less serious until finally it reached the larynx; having by its devitalizing process so diminished the power of resistance that it induced a severe septic infiltration. Influenza diminishes the power of resistance of the tissue elements, a fact which very possibly predisposed toward this acute edema. Again the rapid abatement of all symptoms, and the patient's rapid recovery with no other treatment but rest in bed and good nursing, is characteristic of septic laryngitis, if dissolution has not already occurred. It matters little what organism is present as they all produce the same kind of inflammation in the larynx and the gravest results may seem impending when quick retrogressive changes may occur. On the other hand, sudden suffocation may appear and unless instant relief is at hand, in the way of intubation or tracheotomy, death will result. Therefore it behooves us to be prepared for any emergency.

30 N. Michigan avenue.

ACUTE MASTOIDITIS: ITS ETIOLOGY, PATHOLOGY, DIAGNOSIS AND TREATMENT.*

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CHICAGO.

Considerable difference of opinion may arise among otologists in the interpretation of the various symptoms encountered in acute mastoiditis, but practically all are agreed on the following propositions:

1. That the majority of acute mastoiditis cases are chargeable to an extension of a suppurative otitis media to the mastoid cells.
2. That the majority of suppurative middle ear infections are caused by diseased processes in the nose, throat, and nasopharynx.
3. That a moderate amount of mastoid tenderness and a varying degree of mastoid involvement is present in the majority of cases of acute middle ear suppurations, but this mastoid infection and tenderness, if early and adequate drainage be provided may, unless other determining symptoms develop, be accepted without alarm for two to three days, and does not, during this period of observation, demand a mastoid operation.
4. That in addition to the virulence of the infection and resistance of the patient, the particular "build" or architecture of the individual mastoid process is an important element in estimating the diagnosis and interpreting the clinical development.
5. That the mastoid of infancy and early childhood is anatomically essentially different from that of the adult; that these anatomical variations are of determining influence in inaugurating and extending such infections, and must be reckoned with in interpreting their particular symptomatology.

A comprehensive and practical conception of this disease in the light of these facts would picture the mastoid process as an integral part of the middle ear and upper respiratory tract; its in-

*Read at May, 1919, meeting Illinois State Medical Society, Peoria; Section, Eye, Ear, Nose and Throat.

tegrity depending to a large extent upon their healthy condition, and the infection and complications which attack it, being influenced by the particular anatomical vagaries and relations of these structures.

SUMMARY OF ANATOMICAL FEATURES WHICH INFLUENCE AND CONTRIBUTE TO MASTOID INFECTION AND ITS COMPLICATION.

The frequency of infected tonsils, adenoids and nose and throat disorders in infants and early childhood undoubtedly predisposes them to middle ear infection and consequent mastoid involvement. The fact that the Eustachian tube in early life is shorter, wider and more horizontal than

infective process to mastoid and cranial cavity. The intimate and relatively large connection of the mastoid antrum to the tympanic vault, as well as the superficial location of the antrum and softness of mastoid structure, in the young, especially conduces to extension of infections from middle ear and perforation of mastoid cortex with consequent production of subperiosteal abscess behind the auricle. (Fig. 2.) Thinness of the mastoid wall in the region of the digastric fossa invites perforation with the development of abscess in the soft tissues of the neck. The walls of the facial canal in infants are not only very thin, but not uncommonly are incomplete and expose the nerve to inflammatory exudations, which explains the frequency of facial paralysis

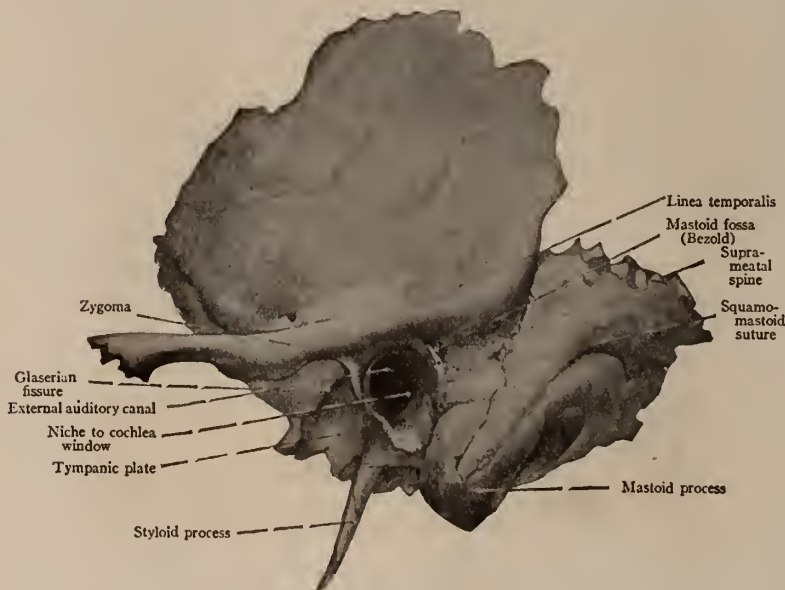


Fig. 1. Left Adult Temporal Bone, showing Landmarks. (Barnhill and Wales.)

in the adult affords a favorable route for the transmission of such infections to the middle ear. (Fig. 1.) The exceeding thinness and frequent dehiscences of the roof of the middle ear, their perforation by blood vessels, the intimate vascular connections of tympanum and mastoid with the cranial cavity and its sinuses, provide an easily accessible path for the extension of middle ear and mastoid infections to the cranial contents and explain the frequency of meningeal irritation, meningitis, brain abscess, and sinus thrombosis often met with in these infections. The not uncommon incompleteness of the Rivinian notch and the lack of union of the different sutures of the bone, likewise offer vulnerable points for extension of an

in children. The relatively superficial course of the nerve in the mastoid exposes it likewise to both pathologic and traumatic injury. The presence of mastoid cells on the posterior wall of the external canal explains the mastoid symptoms which are the almost constant accompaniment of an acute otitis media. In mastoids of the pneumatic type a purulent process is more likely to progress rapidly than in those of the sclerotic type. (Fig. 3.)

ETIOLOGY.

Secondary Acute Mastoiditis. As might be expected, from the general relation of the mastoid process, acute mastoiditis is almost always secondary to infection and suppuration of the middle ear. In all cases of acute otitis media there

is more or less inflammatory involvement of the mastoid antrum, and not infrequently pus is present in the mastoid cells. The etiological factors of acute suppurative otitis media play, therefore, a most important role in the production of acute involvement of the process. The factors in this production may be systemic in origin, as an otitis accompanying the exanthemata, scarlatina, diphtheria, epidemic influenza, typhus or typhoid fever; or local, as an accompaniment of acute rhinitis, tonsillitis, pharyngitis or quinsy. Bacon observes an increase in the number of mastoid cases since influenza has become prevalent. Predisposing causes are: intranasal irregularities, adenoids, diseased tonsils, improperly treated

and exudation of serum; 2nd, the stage of pus production, and 3rd, the stage of cell destruction and granulation formation. In the first stage, the muco-periosteal lining of the cells becomes congested and an inflammatory reaction occurs, with exudation of serum; the septa between the cells remain intact; the cells are red and filled with serum, tinted with blood. In the second stage the cells contain pus, the septa being preserved. In the third stage the septa break down, granulations develop; pus is formed in too great a quantity to be drained through the tympanic opening and endeavors to find an exit in the path of least resistance.



Fig. 2. Skull showing Great Development of Zygomatic Cells. (Barnhill and Wales.)

middle ear suppurations, resulting in inefficient drainage, blowing the nose during an attack of acute rhinitis, sniffing of salt and water, improper use of nasal douche, a local minoris resistenciæ, occasioned by severe illness, during which a suppurative middle ear trouble develops, and a constitutional dyscrasia. Rarely an inflammation of the external auditory canal may extend to the mastoid. Of all the causes enumerated, insufficient drainage of a suppurating middle ear is the one most commonly encountered, and from an anatomical standpoint, the most logical one to be anticipated. (Fig. 4.)

PATHOLOGY

Three stages are commonly recognized in the pathologic process: 1st, the stage of congestion

DIAGNOSIS

In arriving at a diagnosis, it is important to obtain all the data possible before reaching a positive conclusion. Seldom is it possible, except in exceptional instances, to form a correct opinion based upon the presence or absence of a single symptom. A careful history should be taken, the general physical condition of the patient noted, and a careful examination made of the mastoid, the external canal and drum membrane.

Secondary Mastoiditis. The presence of acute mastoiditis secondary to an acute suppurative otitis media is usually manifested by clinical features of a positive and definite character. The same statement holds good for an acute exacerbation of a chronic suppurating middle ear. Be-

fore making the actual examination two important details should be carefully investigated; 1st, the history of the disease; 2nd, the general condition of the patient.

creased. *The general condition of the patient is suggestive.* An uncomplicated attack of acute suppurative otitis media with good drainage, usually subsides in a few days and the patient

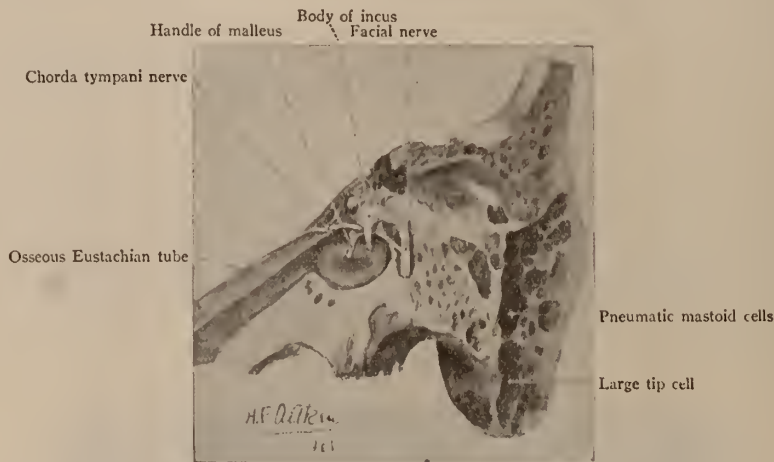


Fig. 3. Right Temporal Bone. Vertical section through middle ear, viewed from within. (Barnhill and Wales.)

History. Experience has demonstrated that acute suppurative otitis media produced by an acute simple rhinitis or rhino-pharyngitis is less likely to involve the mastoid; while if the middle

rapidly regains the appetite and healthy appearance; prolonged prostration, loss of appetite, anemic appearance, general lassitude or restlessness, and the unmistakable physiognomy of the

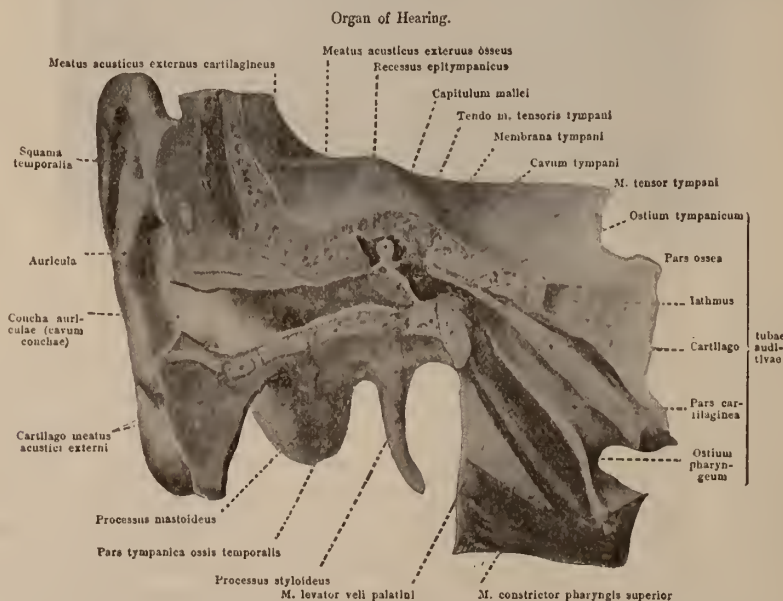


Fig. 4. General View of the Right External Ear and Middle Ear, looked at from in front and externally. (The external ear has been opened by a frontal section; the tympanic cavity and Eustachian tube have been opened by a vertical section carried obliquely, lateralward and dorsalward. Spalteholz.)

ear suppuration accompanies the exanthemata, diphtheria, septic tonsillitis, typhus or typhoid fever, influenza, diabetes, or Bright's disease, the dangers of mastoid involvement are greatly in-

creased. seriously ill would strongly point to a more extensive disturbance than that of the middle ear infection alone. The following diagnostic data are encountered individually, collectively or in

various selective groupings according to the stage and severity of the invasion; 1st, pain in the mastoid; 2nd, tenderness on pressure over the process; 3rd, discharge from the external meatus; 4th, temperature; 5th, changes in the tissue over the mastoid; 6th, sagging of the postero-superior



Fig. 5. Points of Mastoid Tenderness in Acute Mastoiditis. The uppermost X is over the site of the mastoid antrum, the lower X over the mastoid tip, and the posterior one is over the point of exit of the mastoid vein. The mastoid region has been shaved, preparatory to operation. (Barnhill and Wales.)

mental wall; 7th, changes in the drum membrane; 8th, pulsating light reflex at the point of perforation in the drum membrane; 9th, blood examination showing leucocytosis and an increase in polynuclear percentage; 10th, bacteriologic examination of aural discharge disclosing various micro-organisms; 11th, roentgenograms exhibiting changes in the process. In estimating the value of any particular symptom or group of symptoms, the dominant surgical principle, retention of pus and absorption of toxins as the underlying basis of the disease, must be kept constantly in mind. A brief analysis of these symptoms is of value.

1. *Pain.* This symptom is influenced by the temperament of the patient; a child or a neurotic will exaggerate it, while a phlegmatic individual will underestimate it. It is almost always, in greater or less degree, a constant accompaniment

of mastoid infection, though cases are met with in which it is absent. It may not be confined to the process itself, but radiates upward over the temporal, backward over the occipital regions and downward towards the teeth. The patient often describes it as a "sickening," "exhausting" pain or "soreness," deep, boring in character, usually worse at night, causing sleeplessness and insomnia. When the discharge is abundant the pain is usually less; when it diminishes or ceases, the pain is increased. Should it be not relieved by proper drainage or measures or return after being absent for several days, it is an indication that the process is advancing and that operation is advisable.

2. *Tenderness on Pressure.* According to their relative significance and frequency Whitling enumerates four tender points: 1st, antrum; 2nd, tip; 3rd, the point of emergence of the emissary vein; 4th, the pre-mastoid lamina, or posterior wall of bony meatus (Fig. 5).

In estimating the tenderness over a suspected



Fig. 6. Projection of the Auricle in Mastoiditis with Postaural Abscess. The collection of pus is above and behind the auricular attachment. Compare the condition with that produced by a rupture of pus into the digastric fossa (Fig. 7). Note also "adenoid expression." (Barnhill and Wales.)

mastoid, the healthy mastoid should always be the basis for comparison.

The period of onset of the tenderness and its behavior is important. With the subsidence of the pain and discharge, it should grow less, should it increase it indicates an advance of the

process. If it is absent at the beginning of a middle ear suppuration and appears later, it usually indicates mastoid involvement. It commonly reaches its maximum during the early vascular stage, and is more marked in mastoids of the pneumatic type with thin cortex, than in those of the sclerotic type with thick cortex.

3. *Discharge from the External Meatus.* The majority of acute mastoiditis cases have an associated discharge from the external meatus. Deficient drainage from the middle ear usually produces an exaggeration of the mastoid symptoms. Diminution of the discharge should be associated with the reduction of pain and tenderness in and over the mastoid and perceptible improvement in the patient's general condition in order to justify the conclusion that the disease is progressing favorably. If the free drainage, in considerable amount, abruptly ceases, returning a few hours or a day or so later, the patient's other symptoms meanwhile exhibiting no improvement, a mastoid involvement is to be apprehended. A profuse discharge from the external meatus continuing for more than one week, particularly if associated

exists as to the value of this symptom. Bacon states, "I have never seen a case of acute inflammation of the mastoid cells without slight elevation of temperature, except in one instance." Numerous cases of extensive necrosis of the mastoid cells are reported in which the temperature



Fig. 8. Sagging of the Postero-Superior Wall at the Inner End of the External Auditory Meatus, the result of Mastoid Suppuration in the adjacent Pneumatic Cells of the Mastoid. Compare location of the sagging with tumefaction of canal due to furuncle. (Fig. 9.) (Barnhill and Wales.)



Fig. 7. Bezold's Abscess. Compare the position of the auricle and of the tumefaction with that produced by rupture through the mastoid cortex over the site of the antrum as shown in Fig. 6. (Barnhill and Wales.)

with the continuance of the mastoid and other general symptoms, and more especially if the local and general symptoms increase in severity, point with almost unvarying certainty to acute mastoiditis.

4. *Temperature.* Some difference of opinion

has run a normal course, and its absence, therefore, is not to be interpreted as an indication that extensive mastoid involvement is not present.

5. *Changes in the Tissues Over the Mastoid.* Edema, redness and prominence of the auricle are relatively late manifestations of acute mastoiditis. Edema is more often characteristic of a furuncle of the external canal than of mastoiditis. The pus may perforate the cortex producing a sub-periosteal abscess, which occurs quite frequently in infancy and early childhood (Fig. 6). The perforation of the cortex is usually located one-quarter to one cm. behind the posterior canal wall. In such cases the region is swollen and red, the auricle projects from the head almost at right angles, the fold where the concha is attached is absent, and a mass in which fluctuation may be demonstrated is presented. Not uncommonly the periosteum and overlying mastoid tissues become involved without perforation, by extension of the mastoid inflammation through the cortex, causing edema and swelling which is not so pronounced, does not cause such conspicuous auricular displacement as that produced by a sub-

periosteal abscess. In the type designated, "Bezold's mastoiditis," the pus has penetrated the mastoid tip at the digastric fossa. In this form the swelling is situated just below the tip and the soft tissues of the neck may be infiltrated. (Fig. 7.)

6. *Sagging of the Postero-Superior Meatal Wall.* The majority of observers agree that this is one of the decisive symptoms of the presence of an acute mastoiditis, many considering it a pathognomonic symptom, demanding immediate mastoid operation. (Fig. 8.) The explanation of the symptom is the anatomical fact that the upper wall of the external meatus close to the drum membrane constitutes the floor of the aditus ad antrum and that pneumatic spaces are usually richly distributed along the anterior face of the process which constitutes the posterior wall of the canal. When the cells of this locality are distended by an inflammatory exudate or pus, sagging of this portion of the canal takes place. Associated with this symptom the fundus of the canal is much reduced in size and only a portion of the drum is visible. The lumen of the canal at other points is normal.

7. *Changes in the Drum Membrane.* The drum is usually perforated at some point or is red, swollen and bulging. Pronounced bulging of the upper and posterior portion of the drum is frequently associated with the sagging of the external canal and is due to the same cause. If the perforation is in Shrapnell's membrane, it is indicative of an acute exacerbation of a chronic otorrhea. (Fig. 9.)

8. *Pulsating Light Reflex.* Politzer states that if a pulsating light reflex at the point of perforation in the drum membrane continues to be seen two weeks from the date of rupture and the ear is still discharging, a mastoid abscess is present.

9. *Blood Examination.* Estimates of the degree of leucocytosis and the polynuclear percentage present in a given case are held, by most observers, to be of doubtful value as an aid to diagnosis. It is probable that a differential blood count which exhibits both a marked leucocytosis and high polynuclear percentage is of value in suggesting a mastoid involvement, taken in connection with other confirmatory symptoms and signs.

10. *Bacteriological Examination of the Aural*

Discharge. This occupies the same position of doubtful value as a diagnostic measure as the differential blood count. The usual micro-organisms found are the streptococcus, the pneumococcus, the staphylococcus, Friedlander's bacillus, and mixed infections.

11. *Roentgenograms of the Mastoid* as an aid to diagnosis are, when properly taken and correctly interpreted, of value. Several plates taken at different periods may show the progress of the mastoid disease, indicated by cloudiness of the process, destruction of the septa and the presence of cavities. Taken in connection with other clinical findings they are of undoubted value and their use should be adopted as a routine measure.

In infancy and early childhood the diagnostic symptoms of acute mastoiditis frequently present



Fig. 9. Furuncle. Note its situation on the cartilaginous meatus in the outer half of the canal. Compare this location with the sagging of the inner end of the meatus due to mastoiditis. (See Fig. 8.) (Barnhill and Wales.)

some important differences from that of the adult. Nursing infants may refuse food, lose weight and suffer from diarrhea. When the drum does not perforate convulsions may develop. Pain is evidenced by restlessness, crying fits, and tossing of the head on the pillow. It is difficult to estimate the mastoid tenderness owing to the fact that the slightest touch anywhere will cause the infant to cry. In marked contrast to the adult the temperature may exhibit a distinct evening rise, often to 103° F. It is to be noted that the acute stage of suppurative otitis media in children is marked by persistent temperature and this fact, therefore,

lessens its value somewhat as an indication of a mastoid involvement. A rapid pulse is not uncommon. Convulsions, vomiting seizures, chills, etc.—symptoms suggestive of cerebral irritation—do not arouse the same apprehension in infants as in adults, because in infants and children meningeal irritations are more frequent and easily disturbed than in adults. In the infant and the young the different portions of the temporal bone may not be united, except by fibrous tissue, the outer wall of the antrum is thin and superficial; pus, therefore, may force its way through these weakened points. The “sagging” in infants under three years usually presents upon the superior wall instead of the supero-posterior

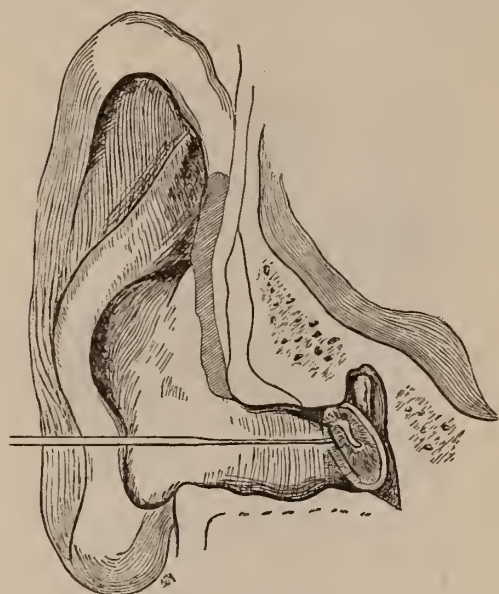


Fig. 10. Incision of Membrana Tympani. The usual location and extent of incision is indicated by the vertical line along the posterior margin of the drum; to this is commonly added the incision, along the posterior wall of the meatus, indicated by the heavier horizontal line. (Modified, from Dench's Surgery of the Ear, Keen's Surgery, Vol. iv.)

wall as in the adult, for the reason there are no cells in this locality in the infantile mastoid. Subperiosteal abscesses are more common in the young, particularly in children who are strumous or tubercular. Such abscesses are, as a rule, located above and behind the auricle. Often the drum is not perforated but bulges markedly. The external auditory canal presents a narrowed lumen caused by a periostitis of the underlying bone. Facial paralysis in tubercular children may be a complication as the Fallopian canal is

not infrequently completely destroyed, their immature bone being more liable to destructive processes.

Abortive Measures. A reasonable doubt often arises as to the wisdom of instituting an immediate operative procedure on the mastoid. The paramount desire to save the patient unnecessary operation justifies a resort to abortive measures in all such cases in which operation on the mastoid is not clearly indicated. It is important to recognize that a mastoiditis, secondary to a middle ear suppuration caused by influenza, diphtheria, scarlet fever, tuberculosis, or syphilis, rarely is amenable to abortive measures, but usually requires the mastoid operation. The abortive measures comprise: free drainage, local depletion, application of cold, rest, regulation of diet and attention to the bowels. Free drainage is best secured by an early free incision of the drum membrane. Puncturing with a spear-shaped instrument is practically worthless; the small opening thus produced closes quickly and fails to provide the avenue necessary for free drainage. A free incision over the most bulging portion or in the posterior half of the drum head, extending along the posterior border of the drum from a point opposite the stapes to the lowest point of the membrane, should be done (Fig. 10). To this is often added a prolongation of the incision above and outward along the supero-posterior wall of the canal, a distance of one-quarter of an inch. Irrigation of the external canal with one to five thousand bichloride solution should precede the operation. A general anesthetic, nitrous oxide or ether, is necessary in children or very nervous individuals. Instilling a few drops of a mixture containing cocaine hydrochlorate grains five to ten; alcohol, one dram; anilin oil, one dram, is a favorite local anesthetic. In the author's experience an early and free incision of the drum has proven most effective in checking the acute middle ear infection and preventing mastoid involvement. In his opinion it must be done early to produce a decisive result, particularly in infants and children. Bulging of the drum membrane is relatively a late symptom of middle ear suppuration and one should not wait until it has appeared before deciding to incise the membrane. In all suspicious cases our most effective endeavors at prevention will be attained by a prompt free and early incision. It is often necessary

to repeat the incision should symptoms of retention appear. After incision, irrigation with various warm antiseptic solutions (boric acid, saturated solution; normal salt solution; bichloride solution, one to five thousand) are used with the two-fold purpose of promoting drainage and destroying the micro-organisms. After each irrigation the external canal, if possible, should be dried to its farthest depth with a cotton-tipped applicator and a strip of gauze (boric or plain) inserted, not packed, to the depth of the drum membrane. Under no circumstance, should the various combinations of sweet oil, glycerine or powders, etc., be used in the ear at this particular stage. In children, especially, the introduction of laudanum or cocaine "ear drops" is liable to produce toxic symptoms. Recognizing that a suppurative otitis media, upon which a mastoid involvement usually depends, is consequent upon an extension of infective processes from the nose, throat or naso-pharynx, it is of importance that proper therapeutic measures be directed throughout the treatment to the relief of these contributory conditions. An important consideration, also, in the author's opinion, is the necessity of providing complete physiologic rest for the patient during the treatment.

Local Depletion. In the early stages, this measure is advocated enthusiastically by some, while others, notably Dench, consider it worthless. In the adult, it is necessary to remove considerable blood, about four ounces. The tip and antrum are the chief sites for the application.

Bier's Hyperemic Treatment. This measure, seldom used, has not met with general favor and its therapeutic value in acute mastoiditis is of doubtful value.

Application of Cold. This may prove serviceable in the early or hyperemic stage. The methods of application are the ice-bag and Leiter coil. Politzer states that if the cold eases the pain, the continuation of the inflammation may be assumed; if it proves irritating and unpleasant, the disappearance of the inflammation is probable.

Rest, Bowels and Diet. The patient should be put to bed and calomel in broken doses or a saline administered. The diet should be light, preferably milk. Only exceptionally should morphin and similar remedies be employed, as the relief they produce tends to mask the symptoms.

Counter-irritants, as painting the mastoid with tincture of iodine, applying a blister, application of ointments of mercury and silver and the Wilde incision, are mentioned to be condemned. The chief objection to the majority of these is that the consequent soreness they produce adds an additional handicap in estimating the degree and progress of the local tenderness; while the therapeutic value of the remainder is open to question. The value of the Wilde incision is dismissed by Whiting in the following emphatic language: "Its performance at the present day is a senseless proceeding, for the reason that it is not calculated to reach the sources of the disease." Some authors claim, however, that a subperiosteal abscess, in infants and children, may originate beneath the periosteum of the meatus with no perforation of the cortex and that, in these types, a Wilde's incision is serviceable.

The author has for some time practiced the following routine measures in the management of cases of suspected acute mastoiditis in the early stages consequent upon middle ear suppurations: 1. Patient is placed in bed, preferably in a hospital, and absolute quiet insisted upon. 2. Calomel is administered, in quarter-grain doses, followed by a saline or enema. 3. Light diet. 4. If drainage through external ear is not satisfactory a free incision of drum is made and a gauze drain inserted. 5. Irrigation with hot normal salt solution, a pint every two hours. 6. A thin sterile dressing is applied over the external meatus and secured by one turn of a roller bandage; this insures surgical cleanliness, and prevents discharge from contaminating the pillow and patient. Fresh dressing is applied after each irrigation. 7. To prevent a dermatitis, unguentum zinc oxide is applied to the external canal and auricle. 8. Ice-bag or Leiter coil to mastoid region continuously for twenty-four to thirty-six hours. 9. Temperature and pulse taken every two hours. 10. Bacteriological examinations of aural discharge and blood examination made at once and repeated as often as indications suggest. 11. Roentgenograms of suspected and healthy mastoid, repeated as often as thought necessary. 12. Attention to nose and throat by spray, gargle or local application.

To be Continued

DIAGNOSIS AND TREATMENT OF GASTRIC AND DUODENAL ULCERS*

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WATERLOO, IOWA

In selecting this subject for a paper, it was not done in order that I might bring something new to your attention, but rather a plea for a more careful and thorough examination, for mistakes in correct diagnosis of these conditions are more often the result of a lack of examination than a lack of knowledge.

There is probably no one condition in the whole category of diseases for which a general practitioner is consulted so frequently as that of "stomach trouble," and the first step in the diagnosis of supposed disease of the stomach, after obtaining a good history, should be a general physical examination, in order to eliminate causes of stomach distress which originate in diseases outside of the digestive tract, such as the heart, kidneys, cirrhosis of the liver, and luetic infections, etc. We should then eliminate the non-surgical diseases, such as neurosis, prolapse, dyspepsia, etc., while next in order come diseases of the digestive tract outside of the stomach, which might give stomach symptoms; for example, gall bladder, appendix, intussusception, etc. The diseases which can rightfully be attributed to the stomach must be differentiated from all of these possible conditions by careful examination.

In this particular class of cases the history is of great importance, particularly in relation to early symptoms when characteristics of disease are not obscured by secondary complications. The relation of food to the relief or production of the symptoms should be carefully noted. Next in importance in the routine should be the use of the stomach tube, and a gross examination of the material drawn off should be made. In ulcer, this material is sour and pungent, in contrast to the coffee ground liquids so frequently found in cancer. A chemical examination to determine the amount of acids has considerable value, but only when taken in conjunction with the clinical findings; a high acid finding with hypersecretion is generally in favor of benign disease, however, the converse is less true as regards malignancy.

In observing the relation which food has to ulcer, we find that, previous to the stage of obstruction, food gives relief to pain which is most intense when the stomach is empty. The patient takes food or soda bicarbonate to get relief, or wakes up at a certain hour in the night with a bitter, sour feeling in the stomach and raises up a few mouthfulls of this burning secretion.

In certain groups of cases the patients do not complain of severe pain, but rather a gnawing, burning distress, coming on at regular intervals after eating, and it is this time of pain or distress and the control of it that are characteristic and diagnostic.

In years past, blood in the gastric contents or in the stool was generally considered a pathognomonic symptom of ulcer, while today we look upon it only as an aid in differential diagnosis, and of much less importance than is popularly believed. One of the peculiar features of ulcer of the stomach and duodenum is the deceptive improvement which is so often mistaken for a cure, and which we are told by the Mayos has apparently little relation to the actual condition of the ulcer itself. After serious symptoms, lasting for some weeks, the patient may have complete relief for weeks, or months, and yet, if operated upon during the quiescent period, the ulcer will almost regularly be found open and unhealed. These supposed cures might be compared to each recurring attack of gall stones or appendicitis.

It is well to remember that over 90 per cent., according to Bainbridge of New York, of stomach cases have their etiology either in pyloric or duodenal ulcers, gall bladder disease or chronic appendicitis, leaving only 10 per cent. to cover cancer, atonic dyspepsia, prolapse, neurosis, etc.

What are the causes or conditions that produce ulcer? First, anything that will cause a trauma, or solution of continuity of the mucus membrane of the stomach, may be followed by ulcer. Second, too hot or too cold food and the initial lesion of the peptic ulcer is due to vascular changes. The sub-tonic stomach of gastric neurosis may lead to these changes, and the altered excess or diminished internal secretions play a large role in bringing about these conditions which terminate in ulcer, while Rosenow has shown a large percentage of cases suffering from focal infections also have ulcer of the stomach and duodenum.

Ulcers can be divided into the acute and

*Read at a meeting of the Tri-State District Medical Society, at Rockford, Sept., 1919.

chronic. The chief dangers of the acute variety depend upon the serious complication, hemorrhage and perforation common to each. Chronic ulcer, in either stomach or duodenum, is the ordinary cause of indigestion which has pain as its prominent symptom. Our diagnosis of these cases must all be made by exclusion and no single condition which could possibly have any bearing on a particular case should be considered too insignificant for serious thought.

In chronic appendicitis we find symptoms of stomach trouble, indigestion, and perhaps that is all that is complained of, but here we find a different condition. The taking of food produces these symptoms for which our advice has been sought. It is very hard at times to decide between a chronic appendix and an ulcer obscured by secondary complications, but by studying the early history of the case it may be possible to come to a correct conclusion. One symptom that I have always found to be reliable in differentiating these two conditions is to make firm pressure over the appendix, which will cause a darting pain in the epigastrium.

In gall bladder disease the tenderness is over the gall bladder and away from the epigastrium. The pain is more severe and sudden in the passage of a gall stone. These attacks are irregular in occurrence and it is sometimes possible to get a history of jaundice. It is here, sometimes, we are called upon to differentiate a gall stone attack from a perforation of an ulcer, and a history, if well obtained, will generally start us on the right road. In gall stone attacks, first, you do not have the shock attending perforated ulcer; second, the pulse is not so rapid; third, the contents of the stomach contains bile instead of blood; fourth, the abdominal walls do not have the board-like rigidity, and, as a rule, gall stone patients are older, though occasionally gall stones are found in very young people. One case, I remember distinctly, had a gall bladder full of stones at twenty years of age.

In cancer, or cancer ingrafted upon an ulcer, the pain as a rule is not so severe, however, it is more constant and is not relieved so easily by vomiting or restrictions in diet. The cancer patient loses weight very rapidly, has a loss of appetite, while the ulcer case, with obstruction, is hungry and would eat if he were not afraid of the pain which he knows will follow the taking of food. In many cases it will be the general ap-

pearance of the patient that will be the deciding factor in making a correct diagnosis. Cancer, in certain portions of the stomach which do not cause obstruction, seldom produces symptoms urgent enough to send a patient to consult a doctor in time for an early diagnosis. But if we will use all the knowledge we have, examine our cases carefully and thoroughly, study them systematically, use the laboratory and x-ray as a check to prove our conclusions, fewer exploratory incisions will be made and more definite knowledge will be had for the proper work to be done when once the abdomen is open.

Let us not forget the diseases outside of the digestive tract and in this connection permit me to call attention to the fact that blood voided by the mouth or the bowel does not always mean ulcer. How many here have been humiliated to find they have been treating nephritis for ulcer? I have, and the most prominent symptoms in that case were indigestion and large amounts of blood in the stool. Why was I misled? First, because I depended upon an inexperienced person to analyze the urine. Second, because at that time most of my thoughts were occupied in an unsystematized way to make both ends meet financially. I hope each Doctor who is called to care for a case, and whose brain is occupied in some mercenary gain, be it a sale of land or cattle, may get the same stinging rebuke that I did when our good friend, Dr. Graham of Rochester, to whom this case was referred, said, "Is your Doctor blind?" Let us use our brains and apply the knowledge that we have, examine the cases that come to us instead of handing out a few pellets or prescribing a mixture that we would not take ourselves in order that the next case in waiting will not get away.

Roentgenology is making rapid strides in aiding in the diagnosis of disease in these hidden recesses, but we must not rely on the x-ray findings alone, for it might be a chronic ulcer, minute in size, in the duodenum without obstruction, without deformity, and in such a case, I believe anyone would hesitate to open an abdomen on what the x-ray revealed. Like the chemical and microscopical analysis of the stomach contents, they are of value only when taken in conjunction with the clinical findings, and these results given to us by an expert. I do not wish to be understood as criticising these valuable aids in diag-

nosis, but rather our faulty knowledge to interpret correctly the findings.

The time is coming very fast when the treatment of gastric and duodenal ulcers can be summed up in one word, "Gastro-Enterostomy," and all cases which have resisted a fair trial of medical measures, should be advised and have the opportunity of obtaining relief and a cure by this proven surgical method. It seems to me the medical profession should recognize these facts and give the patient a chance.

EARLY RECOGNITION AND TREATMENT OF INTUSSUSCEPTION*

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CEDAR RAPIDS, IOWA

I have chosen this subject because of the great mortality in those cases which are not recognized early, and are brought under the care of the surgeon when practically moribund. In this paper I will refer only to the acute type, though there is a chronic form, in which early diagnosis and treatment is not so urgent.

Intussusception is an invagination of a part of the gut into its own lumen. Mucous membrane is thus brought in contact with mucous membrane, and peritoneum with peritoneum, forming three layers, entering, receiving and returning. The condition may be illustrated by pushing the end of a glove finger into the lower portion. It is more common in children, about one-third of the cases occurring during the first year, and nearly all cases before the tenth. The most common location is in the ileocecal region, the ileocecal valve forming the head of intussusception. Most authors agree that the mechanism of intussusception consists of a local spasm of the intestine, drawing the gut up over a portion of the normal intestine. This invagination acts as a foreign body, causing further spasmodic contraction and forcing the intussusception farther along. Pressure is brought upon the mesenteric vessels, producing engorgement of the tissues. A vicious circle is formed, resulting in more swelling of the tissues, and more constriction of the mesenteric vessels. Accompanying this process an exudation of lymph and fibrin takes place, forming adhesions between the layers of intussusception. With the complete cutting off of the

blood supply gangrene will take place early. The bowel above also becomes distended with gas and toxic material.

In cases of early death from shock, there is little pathology beyond engorgement, but in the later stages a sausage shaped tumor markedly congested and indurated is found. Peritonitis, sloughing and necrosis may have taken place.

Among the exciting causes that may be mentioned, are ingestion of irritating foods, contusions of the abdomen, chronic inflammation of the intestinal mucosa and the various tumors.

The symptoms of this condition are characteristic, there is a history of acute onset, consisting of violent colicky pains, which may or may not be localized; early and persistent vomiting in most cases; usually constipation or small frequent bowel movements with tenesmus; but the most important symptom is the early passage of blood in the stools. The general appearance of the patient is typical, the expression being anxious, the features pinched and prostration early. There may be little or no fever, but the pulse becomes rapid and feeble. Examination of the abdomen reveals some distention and in many cases a sausage shaped tumor may be felt. Osler says this occurs in one third of the cases during the first day. Rectal examination should always be made in suspected cases, because many times where there is no tumor palpable through the abdominal wall, the intussusception may be felt through the rectum.

Of all the internal obstructions in children, this is the most readily diagnosed. It must be differentiated from the various other forms of obstruction, acute appendicitis and Meckel's diverticulum, but especially from acute dysentery. However, the more violent outset, the earlier passage of blood and the presence of tumor are peculiar to intussusception. Microscopical examination of the bloody mucus of intussusception often reveals unchanged sloughs of intestinal epithelium, while that from dysentery is full of leucocytes and bacteria. There is also an initial fever in dysentery which is not present in acute intussusception.

The treatment has but one object, and that, to reduce the intussusception as early as possible. I believe that this can be accomplished in most cases during the first twenty-four to thirty-six hours or in those cases in which pathological

*Read at the meeting of the Tri-State District Medical Society at Rockford, Sept., 1919

changes are not marked. One may attempt first, if the case is seen early, to reduce the intussusception by a rectal injection of a quart of lukewarm water or saline. The reduction is indicated by a rumbling sound, the disappearance of the tumor, relief of symptoms and possible copious bowel movement. Following this the case must be carefully watched as there is great danger of recurrence. The possibility of this is lessened by inhibiting intestinal peristalsis with opium. This together with liquid nourishment should be kept up for several days. Fisher says that there are practically no recoveries without intervention. A fatal result from shock may occur within one-half day of the onset, but as a rule it takes from three to six days.

One should not tarry too long in attempting this sort of reduction, because every hour of delay makes the possibility of successful reduction less and less. Once incarceration and adhesions are formed it is practically impossible to perform a reduction and protect the life of the individual. In all cases where there is not an immediate reduction by the above method, operative treatment should be instituted at once. The prognosis of these cases depends absolutely upon the early reduction. In those cases seen and intussusception reduced before any marked change has taken place in the gut, there should be a high percentage of recoveries.

Earliest possible reduction should be made in all cases because with delay:

1. The general condition of the patient rapidly declines because of increasing toxicity from the absorption of toxic material.
2. This class of patients, generally children, do not withstand shock following the radical operation made necessary by delay.
3. Delay adds to the possibility of strangulation and consequent gangrene.
4. Reduction is made difficult if not impossible if one waits until there has been considerable formation of lymph and fibrin.

Personally I have but three cases to report, one of which was not operated on, one where there was some delay in operating, and a third where an immediate operation was performed.

Case 1. The patient, a child, aged ten months, was brought to the office of a practitioner in a small country town with the history of a sudden onset of severe colicky pains. Anodyne was given and the patient sent home. During the

night, several enemas were given, and considerable fresh blood noticed in the results. The doctor was called again, nine hours later, and the case referred to the hospital.

Examination revealed no tumor, and the child was apparently comfortable with a temperature of 99, pulse 140, and respirations 38. Following an enema, some more bright blood was passed.

This case was not correctly diagnosed because of the absence of tumor, and the apparent ease of the patient resulting from the anodyne, and was treated as an acute dysentery. The patient died on the third day, in a very toxic condition with a temperature of 101.2, pulse 206, respirations 42, and with no abnormal physical signs other than a slight abdominal distention. Microscopical examination of the stools was not made. Post mortem examination revealed an ilocecal intussusception with marked incarceration of the telescoped bowel.

Case 2. A nursing baby of six months old, with a history of sudden onset of abdominal colic. When seen, the baby was screaming, with knees drawn up on the abdomen, profusely vomiting, but with no fever. The doctor gave an enema with result of considerable bright red blood. The child became quiet in about twelve hours, excepting upon being disturbed. We saw the case in consultation, sixteen hours after the onset, and found considerable tenderness over the ascending and transverse colon, but no tumor either by abdominal or rectal examination.

We made a probable diagnosis of intussusception because of the history and operated. The head of the intussusception was found in the transverse colon, it being of the ileocecal variety. Some difficulty was encountered in reduction because of the agglucination. In order to prevent recurrence, the ileum was fixed to the peritoneum and opiates given to inhibit peristalsis. An uneventful recovery resulted.

Case 3. A boy, six months old, with a sudden onset of screaming and drawing up the legs as if in great abdominal pain. A stool containing bright red blood was passed, soon after the onset. This case was seen an hour later with the above history, there was no fever, distention, vomiting or mass by abdominal palpation. Rectal examination, however, revealed a mass protruding into the rectum. This case was operated on two hours later, and the ileum found telescoped about 18 inches into the cecum. There was no agglutina-

tion or marked congestion, and the reduction was easily made with an uneventful recovery.

These three cases impress me very much; in the first it would be interesting to know whether the patient's life could have been saved if early operation had been performed. The second was operated on in time to avoid a resection and the recovery was complete. In the third, where the operation took place within four hours after onset, the results were best—the patient's general condition was good and the intussusception was reduced with practically no trauma, leaving the intestine in a normal condition. It was this case that impressed me, that if the diagnosis was made early, and the case operated on with the patient still in good condition, and before the formation of adhesions that a very great percentage of the cases would recover.

In conclusion I would strongly emphasize the dangers of delay, and personally would not recommend attempting reduction by medical treatment. I believe that our modern aseptic technique, the certainty of reduction and the more probable prevention of recurrence by surgical intervention should make us hesitate to attempt reduction by medical methods.

Among the advantages of non-operative treatment there is first the danger of rupture of the bowel with consequent peritonitis. This perhaps is slight, but should be considered. In the next place one is not always sure that reduction has actually been accomplished. Third, there is a frequent recurrence of intussusception and opiates which tend to mask the symptoms, offer the only preventative.

Surgical treatment offers some distinct advantages; the first, being that one is sure either of accomplishing reduction, or if necessary more radical measures may be undertaken; second, a recurrence can more certainly be prevented by stitching the reduced gut to the peritoneum or shortening the mesentery; third, before relieving an intussusception in those cases of marked toxicity, one should aspirate the distended gut above, because as soon as this poisonous material strikes the normal intestine below it is absorbed much more rapidly and floods the system with toxine. I do not believe that this procedure is necessary, exception in those cases of more than thirty-six hours duration, because the material as a rule is not very toxic in the early cases.

I would then advise operative treatment in

every case of intussusception as soon as the diagnosis has been made. Do not wait for a sausage shaped tumor to be present, to make diagnosis. My object in presenting this paper has been to urge upon the medical profession the necessity of early diagnosis and treatment, if we wish to prevent the extremely high mortality, certain to occur in all neglected cases.

DISCUSSION

DR. GEO. V. I. BROWN (Milwaukee, Wis): Last year I had the pleasure of addressing this body on a subject that I thought I knew something about. It is very clear to me that I could not undertake this time to discuss a subject that I know very little about. I wish to explain, however, that when the notice reached me that I was to discuss this paper I was out of the city and did not return until it was too late to prepare anything.

I believe, however, that we can turn this unfortunate circumstance into a fortunate one if you can induce Dr. Hugh Cabot of Boston to lead this discussion. Dr. Cabot has not promised me that he would do so, but perhaps he will anyway.

DR. HUGH CABOT: I want to congratulate Dr. Krause for having gotten to the meat of this question, and I think the best I can do is to add the weight of my testimony to some things he has said.

I will disagree with him violently, if necessary, in one regard. He said that these cases should be operated upon as soon as the diagnosis is made. Gentlemen, they should be operated upon before the diagnosis is made in many cases. (Laughter and applause.)

It recalls to my mind the early days of the now popular disease of appendicitis when a former teacher of mine heard a very distinguished surgeon say that the cases should be operated upon as soon as the diagnosis is made. He immediately jumped up and said, "You'll kill half of them if you wait until then!" It is perfectly true.

Not at all do I wish to inveigle you to not make a diagnosis. The difference between modern and ancient medicine is that it has become less of an art and more of a science. We do, in fact, make a diagnosis largely because we are given sufficiently accurate methods of doing it, and there is a field here, I think, for the application of different methods.

My experience is not as large in this as is that of many others. In the last few years I have seen no children, having been absent from this country on the business of the war, but it is clear to me that there are many cases in which I can not feel there is anything abnormal in all this. A little ether will do none of the conditions with which this may be confused, harm. It will enable you to make a diagnosis early in many cases. Relaxation will enable you to feel the tumor and if you are in sufficient doubt to make you hesitate to go ahead, then give a general anesthetic to reinforce your courage. The difference

between operating upon these cases early and operating upon them late is the difference between light and darkness. At the stage when they can be reduced, as Dr. Krause has described, by manipulation, the prognosis is excellent. At any other stage it is bad. It is not essentially different from the condition of acute intestinal obstruction from any cause. You all know that early acute intestinal obstruction does well, that late it does thoroughly bad and that later it does worse.

If all these cases could be dealt with surgically within a few hours after they occur, the mortality would be insignificant. If all of them were dealt with from twenty-four to thirty-six hours after they occurred, the mortality would be high. The whole premium is upon diagnosis in the opinion of most people. It is upon recognition of the fact that every baby suffering with pain, with the regular symptoms, and a little blood, either has or has not intussusception. If he has it, you have to do something with him. If he has not, well and good, but the burden of proof lies upon those who will show that he has not some condition requiring surgical intervention. That is the point. We tend too much to think that the burden of proof lies upon those who will show that we should operate. The burden of proof lies with those who will show that we should not operate. Operate and save; failure to operate will kill; it is a clear one.

We have only to think straight in a comparatively narrow field and if in doubt help ourselves with a general anesthetic.

I think treatment other than operation has lost ground so rapidly that it need not be seriously considered. After all, it belongs to the time when we were afraid of the abdomen and regarded opening the abdomen as a serious business.

There are a few tissues in the body which will stand more surgery than has taken place. The attempted reduction by enemata delays satisfactory treatment and to delay satisfactory treatment under these conditions is to assume a grave responsibility. As has been said, you are by no means certain what has happened. You are certain in the majority of cases that time has been spent which might well have been spent by the patient in getting well rather than by the surgeon in trying to make up his mind whether the patient is going to get well or not. That time spent in delay is time which does not belong to the surgeon, but which belongs to the little patient. That is his time; he is entitled to it. We are not entitled to it. The attitude of mind that waits and sees how it will be this afternoon is the attitude of protection to surgery but not to the patient. The patient is entitled to that time. We should be required to say when first these patients are seen, whether or not they have intussusception and we should spend as little time as possible in coming to the opinion.

If really in doubt after every method of diagnosis has been tried, still the benefit of the doubt will remain in operation.

I thank you.

THE CHAIRMAN: We will ask Dr. Krause to close the discussion.

DR. KRAUSE: I have nothing further to say except that I appreciate very highly Dr. Cabot's discussion.

TYPHOID AND PARATYPHOID IN VACCINATED TROOPS.

A REPORT OF TWENTY-FIVE CASES IN ARMY OF OCCUPATION.

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The following is a brief summary of a series of twenty-five cases of fever which came under my care while I was attached to Evacuation Hospital No. 2 at Coblenz, Germany, in the Army of Occupation. This series was reported at the first meeting of the Third Army Medical Society in February, 1919. All the patients were admitted to the hospital between December 18, 1918, and February 10, 1919, and were all enlisted men of the Army of Occupation.

As all the patients had received at least one course of inoculation against typhoid and paratyphoid during their careers in the army, the diagnosis was not always easy, as it is known that such inoculation tends to obscure the findings of the typhoid group of fevers should infection subsequently occur. In making the diagnosis in each case we followed the instructions given to us by Lt. Col. Homer F. Swift, then consulting physician of the Third Army. In accordance with these the typhoid group was subdivided into the following:

1. Typhoid Fever (Bacteriological), where *B. typhosus* was isolated either in the blood or stool.
2. Typhoid Fever (Necrological), where the diagnosis was made or confirmed at autopsy.
3. Typhoid Fever (Clinical), including all cases in which the symptoms and signs pointed to the presence of the disease, yet in which the germ was not isolated.
4. Observation Typhoid Fever, this term being used to include suspect cases in which no germs were found nor were the symptoms characteristic enough to place the cases in Group 3.
5. Paratyphoid Fever, A or B, in which the paratyphoid bacilli were isolated either in the blood or stool.

Owing to the fact that our hospital was very busy during those three months, complete laboratory work could not be carried out on each pa-

tient; examinations for the germs in urine were not done. But every patient had a blood culture made within 24-48 hours after admission and many were repeated later; stools were repeatedly examined; and at least one leucocyte count was made in each case. To ask more of the laboratory would have been impossible, as the influenza epidemic then raging was taxing it to the utmost.

Most of the cases were also seen by Col. Swift, to whom I am greatly indebted for kind suggestions. The laboratory work was excellently well done by Capt. Robinson and Lt. Avery.

The accompanying table shows the chief symptoms and signs in each case and gives the diagnosis and result.

COMMENTS.—The fever in most of the cases was not as typical as we see in civilian practice as in some cases it subsided quickly; especially was this noticeable in two of the paratyphoids. The pulse was usually slow in comparison with the fever. Most of the cases were admitted after they had been ill for at least a week—some longer than that. This fact was undoubtedly a strong reason why more positive cultures were not recovered.

Many of the patients had taken part in those strenuous marches into Germany, which were undertaken just after the armistice. This was undoubtedly a weakening factor.

These cases, though few in number, point conclusively to the fact that antityphoid inoculation, as is noted in the *Journal A. M. A.*, page 1298, May 3, 1919, is only a partial protection. Fifteen of the twenty-five had been inoculated more than a year previously, ten within the last year; yet they were victims of the typhoid diseases. Obviously, we cannot afford to lessen our sanitary precautions, but must be even more careful than previously. And it is but natural to believe that re-inoculation should be done at least once a year.

The very low mortality (4 per cent.) is undoubtedly to be attributed to the previous inoculation. This process seems also to greatly lessen the severity of the disease.

The complications were interesting. The two patients who developed pneumonia and then empyema were both doing well when I left Germany in March. The one man who had both intestinal hemorrhages and suppurative parotitis made a good recovery. The only death in the series occurred in one of the two hemorrhage cases.

In none of the cases could I obtain any history

of previous typhoid or of any typhoid or paratyphoid among the soldiers or civilians in the vicinity.

Treatment was similar to that carried out in civilian hospitals, being chiefly dietetic and care of complications.

SUMMARY.

The above is a report of twenty-five cases of typhoid and paratyphoid fever occurring in the Army of Occupation, with one death.

The need for repeated inoculation against typhoid and the necessity for ever-watchful care in sanitation are emphasized.

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TYPHOID FEVER AT MOLINE*

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Moline has quite recently had far more typhoid and paratyphoid than usually falls to the lot of the average city of its size. The situation has been a rather peculiar one, still it exemplifies what can well take place in any community unless every precaution is taken, and shows the necessity for eternal vigilance in safeguarding public health. Moline has had four distinct outbreaks in the past two years, representing three distinct sources of infection. Time will not permit as detailed a discussion as will be necessary to bring out all the interesting points, but it is hoped that the following paper will show some of the phases of the typhoid situation which will be of interest and value to those present.

During the fall of 1917 the State Department of Public Health learned that an unwarranted amount of typhoid existed at Moline. This state of affairs continued and as a result the writer was detailed to investigate the situation and determine if possible the source or sources of infection. This investigation covering the period from September 1, 1917, to April 1, 1918, showed conclusively the city water to be the source of infection.

Recommendations having been made looking toward the safeguarding of the water supply, little more thought was given to the Moline situation. However, in July, 1918, the department again received reports indicating an explo-

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sive outbreak of typhoid, and a second investigation was made. This investigation, like the former, showed the city water responsible.

Following closely the main outbreak in July, a small local outbreak occurred which was traced to water from a well, doubtless infected through near-by sewers.

But this was not all. Late in November a large number of people in one section of the town became ill. This was during the flu outbreak and was at first thought to be flu. However it was soon learned that the outbreak was one of typhoid, which was traced to milk.

Description of city. Moline, a manufacturing city of somewhat over 30,000 population, is situated on Mississippi river in the north central part of Rock Island county. Moline, Rock Island and East Moline comprise one community, Rock Island adjoining Moline on the west and East Moline adjoining Moline on the east. Rock Island has a population about the same as Moline. The 1910 census gives East Moline as having a population of 2,665, but the city has had a very rapid growth and probably has in the neighborhood of 8,000 people at the present time.

Typhoid record of Moline. The following tabulation gives the typhoid figures for Moline for a number of years back. These figures have been computed with the assumption that the growth has been uniform between census years and since the 1910 census was taken. It is interesting to note the decrease of typhoid following the completion of the filter plant in 1902. Before this time raw river water had been pumped into the city mains.

Year	Population	Deaths	Death Rate per 100,000
1899.....	16,723	24	144
1900.....	17,248	26	151
1901.....	17,941	18	100
1902.....	18,634	9	48
1903.....	19,327	6	31
1904.....	20,020	10	50
1905.....	20,713	9	43
1906.....	21,406	5	23
1907.....	22,099	5	23
1908.....	22,792	5	22
1909.....	23,485	7	30
1910.....	24,177	7	29
1911.....	25,009	15	60
1912.....	25,841	15	58
1913.....	26,673	14	52
1914.....	27,505	13	47
1915.....	28,337	9	32
1916.....	29,169	9	31
1917.....	30,000	10	33
Jan. 1, 1918 to Sept. 1, 1918.....	30,000	18	80

Very few Widal's were made on the cases investigated during the winter of 1917-18 and it is not known if typhoid or paratyphoid predominated. During the summer investigation,

however, a number of Widal's were made which indicated an outbreak mainly of paratyphoid B. From these later findings and from a general study of the matter, it appears quite probable that the outbreak during the preceding winter was also predominantly one of paratyphoid. Inasmuch as paratyphoid is quite similar to typhoid (although as a general rule not so severe), the outbreaks will be referred to simply as typhoid.

Geographical distribution of cases. As might be expected in water-borne epidemics, the cases were found in every part of town, no one portion suffering perceptibly more than any other. The general distribution of cases throughout Moline, as well as the fact that Rock Island and East Moline had a few cases and the majority of these gave histories of having received infection in Moline, pointed quite strongly from the beginning toward the water supply as a source of infection. However, this evidence was not depended upon for solving the source of infections, conclusions being drawn only after eliminating all other possible sources. The last outbreak was confined to one milk route.

Distribution according to age and sex in water outbreaks:

Sex	0-9	10-19	20-29	30-39	40-49	50-59	60 above	Total
Male	29	35	51	40	16	8	2	181
Female	16	36	38	23	8	2	3	126
Total	45	71	89	63	24	10	5	307
Total per cent.....	14.7	23.1	29.	20.5	7.8	3.3	1.6	100

Distribution according to age and sex in milk outbreak:

Sex	0-9	10-19	20-29	30-39	40-49	50-59	Total
Male	12	19	5	2	1	1	40
Female	5	10	7	9	1	1	33
Total	17	29	12	11	2	2	73
Total per cent.....	23.3	39.7	16.5	15.1	2.7	2.7	100

The figures for the water outbreaks especially indicate a preponderance of male cases. This is well accounted for by the fact that owing to war conditions local factories offered attractive wages and a large number of men came to Moline for employment. The majority of these employees from outside the city were young men without families. Also most of the employees from Rock Island and East Moline were males. It is of interest to note that during the winter investigation it was found that no less than 19 males among the typhoid patients gave histories of having no family relations in the city, while only one or two female patients were similarly situated.

In the outbreak due to an infected milk supply the male cases predominate, but not to such a

marked degree as in the water outbreak. This is largely due to the fact that the majority of cases in the milk outbreak were 19 years of age or less, a class which probably was not materially affected by transient labor conditions.

After establishing conclusively that the water supply became infected and had caused all, or practically all, of the typhoid occurring during 1917 and up until August, 1918, it remained to be learned where this infection entered. From a study of local conditions it was apparent that the infection might have entered from two sources: from the factory district, where two water systems were used, or from the city waterworks plant.

Dual water systems at factories. The main factory district at Moline lies along the Mississippi, which forms the north boundary of the city. In order to receive minimum insurance rates from the underwriters, it has been necessary that the factory owners provide two sources of supply for fire purposes. To meet this demand what is known as the manufacturers' main has been laid between the factories and the river. This main is connected with the city supply along Third avenue at two points, and also by a large number of cross connections. Check valves opening toward the factory were installed on all pipes connecting the two sources of supply.

A dual water system, such as existed at Moline, constitutes a dangerous condition. This fact was recognized when the typhoid investigations were made. However, this investigation, though indicating a dangerous condition, showed there was no reason to suspect that the infections had entered the city mains from this source.

City water supply. Filtered Mississippi river water constitutes the Moline city supply. Considerable sewage finds its way into the river at relatively short distances above the Moline waterworks. Some of the towns discharging sewage above Moline had more or less typhoid. For instance, Clinton, Iowa, about 35 miles upstream, had a number of cases during the fall of 1917 when Moline was also suffering from the disease. East Moline and Watertown hospital, both of which had a number of cases of typhoid, discharge sewage about 5½ miles above the waterworks. In addition, a sewer serving the east end of Moline discharges above the intakes. With this condition existing it is important that the

water-purification plant be efficiently operated at all times. It is quite likely that the sewage from some of these points actually constituted the sources of infection which entered the city mains and caused the typhoid.

The raw river water is first pumped into two baffled settling basins where it is treated with alum. From the sedimentation tanks the water passes into five rapid sand filters having a total capacity of 5,000,000 gallons per day.

During the outbreak of typhoid in the fall of 1917 the thickness of the filtering medium had been reduced approximately 10 inches. A large portion of the underdrain system had become clogged, making it necessary that excessive rates of filtration be maintained in portions of the bed in order to supply the demands of the city. This resulted in a very poor effluent. Ordinarily no bad results would have followed, even though the filter efficiency were low as liquid chlorine was fed into the effluent. But the records show that the chlorinator refused to operate on a number of occasions and a poorly filtered water was pumped into the mains. This may have been responsible for a number of the infections.

But the main number of cases doubtless resulted from another factor in the plant, namely, what is known as a by-pass. Some years ago the Commissioner of Waterworks desired to make it possible to pass settled water into the clear well at times when the demands for water greatly exceeded the filtered capacity. This often occurred after the strainers began to clog. In order to carry out this idea, a gate valve was placed in such a manner that a portion of the settled water might be passed directly over the filter and into the clear well, the remainder passing through the filters.

The records indicated some of the dates on which the by-pass was open during the fall of 1917, but there is reason to believe that the water had been by-passed on other occasions and that the chlorine had been off during the same periods.

Following the outbreak in the fall and winter of 1917 and 1918 the city had all the filters overhauled, defective strainers replaced by new ones and Red Wing sand used instead of the river sand removed. Two Wallace & Tiernan chlorinators were also ordered.

With the filters overhauled and the city alive to the dangers of permitting a partially treated

water to enter the mains, it was thought that no further trouble would be had. However, as already stated, in July a sudden and serious outbreak of typhoid fever occurred. This outbreak, like the preceding one, comprised cases scattered throughout the city. The same method of investigation was here used with the result that all evidence pointed conclusively to the city water supply.

With the filters newly overhauled, it was evident that the sudden and extensive outbreak could not have occurred from filtered water, even had no chlorine been added to the effluent. There was reason to suspect from the beginning, therefore, that the by-pass had been used.

The chemist was questioned as to the possibility of the by-pass having been opened but not recorded. No instance was discovered and the chemist stated that the filters in their existing condition were capable of yielding sufficient water for all needs and the by-pass had not been used. However, in spite of these denials, the evidence appeared so conclusive that it was decided to simply remain at the plant on the theory that some one would eventually disclose some incident which would lead to a solution, and, as was expected, that necessary information was secured from one of the employees. It was learned that the chemist had opened the by-pass about 5 p. m. on June 21 and left it open until 2 p. m. on June 22. A study of the records show that the chlorine was on only part of the time the water was being by-passed. Information received later showed that the by-pass had also been opened during a part of June 19.

During this period also little or no chlorine had been added.

Measures were again taken to prevent any more infectious matter entering. However, more cases were reported in August than should have resulted from secondary infections. Therefore, another trip was made to study the cause of this small outbreak. It was soon found that the majority of these cases lived in a certain section of the city or had been working or visiting near by. A careful investigation indicated that a private well, known as the McGovern well, was responsible for a separate outbreak in which perhaps 25 cases were infected. This well is of the dug type and approximately 75 feet in depth. About 72 feet are in limestone. The top of the well was adequately protected. The exact chan-

nel through which this well became infected is not known, but there is every reason to believe that the sewage from an adjoining building, which had contained some typhoid cases, may have entered the well and caused the trouble or that sewage from sewers in the adjoining streets, which are laid in limestone formation, may have traveled in a crevice in the rocks of the well.

The source of infection in the last outbreak, which was due to milk, was readily found, as practically all the cases were among customers of one milk dealer. The following interesting history was learned: A Mr. Hoste, working at one of the factories at East Moline, was not well in the fall. He had been in a run-down condition and feeling poorly. A physician was consulted on August 14 who told the patient that he appeared tubercular and recommended that he secure employment in the country rather than to stay in the shops. Mr. Hoste was never sufficiently ill to go to bed and no Widal's were made at this time.

In accordance with the doctor's recommendations, Mr. Hoste secured employment with his brother-in-law, Mr. Dhooge, who, by the way, was delivering milk over the route in question. Here he helped with the milking of the cows.

During the latter part of November typhoid occurred along Mr. Dhooge's route. A visit was, therefore, made to the Dhooge farm. Mr. Hoste's recent illness was here learned of and blood samples were, therefore, secured for Widal's. Typhoid reactions were found at two laboratories and there is no doubt, therefore, that this typhoid outbreak, including about 75 cases, was directly traceable to this mild case of walking typhoid, which Mr. Hoste doubtless had when he was still working in the factory.

GENERAL HEALTH ACTIVITIES AND THEIR EFFECT ON TUBERCULOSIS*

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Regardless of popular opinion to the contrary and the rather pessimistic attitude of even some health officers and physicians, the warfare against tuberculosis has resulted in an unusual measure of success. The reduction in tuberculosis mor-

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tality compares favorably with that of any communicable diseases, except those for which science has provided some specific preventive measure.

According to the statistics compiled by Frederick L. Hoffman (Transactions of the National Tuberculosis Association, 1913), the tuberculosis mortality in New York, Boston and Philadelphia approximated 450 per 100,000 of population a century ago. Since 1912, the tuberculosis mortality for the entire registration area of the United States has not exceeded 150 per 100,000 and is tending steadily downward.

Inasmuch as sera and vaccines have proven altogether worthless in the prevention of tuberculosis and no other specific preventive has been forthcoming, it is not reasonable to compare the reduction in tuberculosis mortality with the mortality from smallpox, typhoid fever and diphtheria, in which vaccine and antitoxin have proven effective, or with the deaths from yellow fever or malaria in the suppression of which the means are simple and direct. As a matter of fact, tuberculosis presents problems more complex and more difficult to meet than those of any other infectious or contagious disease. The prevention of tuberculosis involves the adjustment of practically all health and social conditions. To attempt to control the disease by the isolation and quarantine of all persons infected would result in the grotesque situation of incarceration of perhaps eighty per cent of the population, with hardly enough remaining at large to carry on the world's affairs.

In spite of these complex questions in the control of tuberculosis and the more or less misdirected efforts of the past, we find on comparison of recent statistics that the results in tuberculosis prevention have been strikingly good. Comparing the five-year period, 1901 to 1905, with the five-year period, 1911 to 1915, we find that the mortality from measles has decreased 5.5 per cent; of whooping cough 10.8 per cent; of pneumonia 16.9 per cent; of diarrhea of infants 21.7 per cent, while the death rate from tuberculosis during that period has dropped 22.2 per cent. Of all of those diseases for which science has not provided a specific preventive, scarlet fever alone makes a better showing than tuberculosis.

In the warfare against tuberculosis there has been enlisted the largest, the best organized and the most liberally financed extra-governmental

health organization the nation has ever known, and the gratifying reduction in tuberculosis mortality is doubtless due, in a large measure, to the activities of national, state and local tuberculosis associations which have attacked the problem with a fair consideration for its very important social phases, and a reasonable recognition of its complex character. The governmental health agencies, as a rule, have made the mistake of dealing with tuberculosis with too much accent upon its infectiousness, attempting as a rule, to combat it upon the simple and direct lines which have proven effective in other communicable diseases.

The tuberculosis organizations have taken great pride in the fact that from 1891, when the first tuberculosis association was organized, until 1913, the tuberculosis mortality had been reduced from 23.8 to 16.6 per 10,000 of population, or a reduction of 30.25 per cent, and these organizations have been disposed to attribute this reduction to their own activities which, in a large measure, have been directed toward the elimination of tuberculous infection and the destruction of the tubercle bacillus.

A little closer scrutiny of statistics raises definite question as to this claim, for it is found that during the period, 1872 to 1891, or for twenty years before the creation of tuberculosis organizations, the mortality had decreased from 33.9 to 24.5 per 10,000 of population, or a decrease of 27.47 per cent. As a matter of fact, tuberculosis mortality had been steadily decreasing for a period of a hundred years, or as far back as statistical data are obtainable, including a period of sixty years in which the tubercle bacillus as the casual factor of the disease was entirely unknown.

This showing raises the question as to whether the conception of tuberculosis as a contagious disease by health authorities, and the battle waged against the bacillus by tuberculosis agencies, has actually been responsible for any great decrease in tuberculosis mortality, or whether, on the other hand, other factors have been playing the principal role in the attainment of these gratifying results.

It is now generally accepted that tuberculosis is almost invariably a result of childhood infection; that the vast majority of adults are infected and that the development of tuberculous diseases depends, not only upon the presence of tubercle

bacillus, but upon some condition which lowers the individual resistance. Hence, we find that while tuberculous infection, particularly of children, is a matter of importance, that other factors are also indispensable in the determination of tuberculosis mortality.

Accepting the theory of childhood infection and the doctrine that if we can control the child we can practically eliminate tuberculous disease, we conclude that pre-natal care, good obstetrics, post-natal care, the protection of the infant, the control of milk supply, medical school supervision, school sanitation and other factors essential to robust childhood, are indispensable in a warfare against tuberculosis. Inasmuch as some of the contagious diseases are notoriously forerunners of tuberculous disease, we must accept it that the prevention of measles, influenza, pneumonia and other acute infections is part of a successful tuberculosis campaign. Since the under-nourished, the under-clothed and the ill-housed are particularly susceptible to tuberculosis, we must include charities and relief, housing and all manner and all phases of social and community life in our campaign if we would attain satisfactory results, and our interest in housing must go much further than the question of the viability of the tubercle bacillus in the dark and unventilated room, while our interest in milk supply should be directed to encourage the production of good and safe milk as a means of general health promotion, rather than to the less important question of specific infection through tuberculous cattle.

A study of tuberculosis mortality for the past century, made with the modern conception of tuberculosis clearly in mind, leads us to the inevitable conclusion that tuberculosis mortalities have been reduced by general health and social activities and by means of better and saner living conditions far more than through the warfare on the tubercle bacillus or our defensive attitude in regard to specific tuberculous infection. The narrow program adopted by most public health agencies and by many tuberculosis associations of attempting to conquer tuberculosis by a battle on the germ, by isolation, quarantine, anti-spitting crusades and drastic restrictions placed on the individual consumptive, has never accomplished as much, and, in my opinion, can never accomplish as much as the broad program which has as its object the development of individual and

community health with the idea of increasing the resistance and thereby placing the individual in a position where he can successfully combat the ever-present infecting organism.

So long as the vast majority of apparently healthful persons are subjects of tuberculous infection, and so long as we are unable to determine with any degree of accuracy which of these hosts of persons are possible spreaders of disease, the practical problem which confronts us is that of preparing to live with the tubercle bacillus, rather than of devising the means whereby the individual may escape from contact with that organism.

While questioning the narrow policy of anti-tuberculosis organizations in the past and recommending for the future an infinitely broader program, it cannot be questioned but that the extra-governmental tuberculosis organizations have been largely responsible not only for the reduction of tuberculosis mortality, but of general mortality, for the work they have actually done has been infinitely broader than the doctrines they have proclaimed. Throughout vast areas of the nation, the majority of community nurses, dispensaries, child welfare organizations and general health activities have been originated, developed and financed by extra-governmental tuberculosis organizations and the nation and the several states are more indebted to these organizations for standardization of health activities and for practical results than to any other volunteer agencies which have been engaged either directly or indirectly in public health work.

The showing of the statistics of the past indicates the need for a broader program which will co-ordinate all health and social agencies in the successful warfare against tuberculosis, and yet as I see it, this must be done without losing the individuality of either the tuberculosis work or of any other specialized activities, since it has been only through this specialization that governmental agencies and the people at large have come to appreciate the importance and magnitude of various phases of health work.

DISCUSSION

DR. F. F. MEIXNER (Peoria): Gentlemen, it is easy enough for us who know to get up and talk, but it is the hardest thing in the world to get the lay person interested in the subject of his own health. Nothing is so cheap in this country as a person's health. We figured that out in dollars and cents as the State De-

partment of Public Health has done in the epidemic of influenza. Of what good is the common sense that we talk if we can't impart that knowledge to the laymen?

All our public health activities are along the line of outlining a mode of living to promote the general health of the individual. If we do that we are accomplishing just what we must; we are increasing resistance, preventing tuberculous infection from becoming a tuberculous disease.

It would be rather interesting if we knew what would happen if the tubercle bacilli were marked out for a generation and then allowed to creep back. That experiment has partially been tried by taking tuberculosis to some savage tribe by our missionaries and by Eskimos coming to our civilized communities and becoming infected. They invariably died off as droves of sheep.

Perhaps then our mild state of tuberculosis is a provision of Nature which prevents us from getting such a mass of infection later that we would succumb to it.

Then the whole thing in prevention seems to be education. Get the people to examine their health, get general inspection of public school children. Let the factories be in such condition that there is less tendency to become infected. Let people take suitable vacations, proper food. Let them use pasteurized milk, as Dr. Robertson recommends. Let them drink fresh water and breathe fresh air. You know those three—good water, fresh air and sunshine—man should have them until the last breath he takes on earth.

That is what public health activity can make possible if it will carry out such a program. I don't think we need to worry about tuberculous infection becoming tuberculous disease.

DR. ROBERTSON: During the last few years I have had to do with the spending of \$5,000,000 in the city of Chicago to attempt to gain, in some measure, control of tuberculosis in that city. Dr. Vincent, President of the Rockefeller Foundation, in a paper enumerated fifty-seven different societies in the United States to work along health lines and advocated that they be limited, that they be put together.

You have listened to Dr. Palmer this afternoon, stating that tuberculosis organizations of the United States, as I understood it, have been largely influential in reducing tuberculosis to about 22 per cent.

I want to take issue with that statement. I am going back to the doctor. I am going to give credit to the men of the medical profession and the research work that has been done by medical people. I am going to state in passing that the tuberculosis organizations have served as publicity agents, and have by that publicity helped to arouse the lay people of America.

I am going to take exception again to what Dr. Palmer has stated because I believe his statement is reactionary, when he says that the campaign against spitting, the prevention of the infection, should not be attempted. He has not said it just that way but

that was the impression he left, I think, and I am going to state that, in my poor judgment, the rules and regulations as made by the State Department of Public Health are right and should be followed and the rules and regulations of the Department of Health contemplate getting after the open case. Quarantine them! Placard them!

If Koch was right that the Tubercle Bacillus is the cause of the disease, then why should we not try to minimize it? I think this disease should not be fought in any way different from the practice in scarlet fever. That is one disease in which there has been a greater progress made than in tuberculosis—the only one he has mentioned. Is he ready to prove that that was not accomplished by the health officers, by the use of pasteurized milk and quarantine, and might not that same pasteurization of milk have had something to do with the reduction of tuberculosis?

There is a well-known health law—Dr. Reilly wrote about it twenty years ago in the health department—that whenever you reduce any one disease in a community, typhoid, for instance, it makes a corresponding reduction in the other diseases.

It has been shown that of all the people that have had typhoid—we will say 100,000 people in America have had typhoid—those that have died within ten years thereafter, 38 per cent. died from tuberculosis. Now then, you reduce typhoid fever by 100,000 in America and you reduce one of those predisposing causes perhaps, but I think we should not put forth the idea that we should not keep up a constant fight against the open case.

We made a survey in the city of Chicago eight miles square—North Avenue on the north, Twenty-second Street on the south, State Street on the East, Ashland Avenue on the West. We examined 165,000 people in that survey. We found 14,282 cases that had not been reported to the Health Department and of that number no less than 1,000 were open cases.

All the restaurants and large hotels have open cases. You would not be surprised at the spread of scarlet fever under similar conditions. You would not say an epidemic of smallpox could not be suppressed because numerous open or contagious cases were present.

I believe a time will come when you can stop infection. I want to tell you of one plan we are using in Chicago to educate and get the coöperation of the physicians. When we learn of an unreported case of tuberculosis through the filing of a death certificate, we at once communicate with the attending doctor. The doctor who signs the death certificate is written to and asked why the case was not reported as the state rules and regulations require. He is asked to come before a hearing board. At that hearing board is an attorney. At that hearing board is some one of our doctors who had examined this case. At this hearing board are two or three health officers. Sometimes the doctor called in is very angry. The idea that he should be brought before a hearing board because he had failed to report a case of tuberculosis!

He usually goes away in a good humor. He agrees to coöperate. That hearing board is working every week, two sessions a week, bringing before it fifteen or twenty doctors, educating them to the prevention of tuberculosis. I think the greatest need for combating tuberculosis at the present time is that the ordinary physician may be so well trained that he is able to make his diagnosis earlier than he does now, and that too, without waiting for the laboratory findings because then it is usually too late. We want the incipient case and want it early.

In the city of Chicago we have been enforcing the state law that is laid down by the director of health of the state of Illinois and we believe we are getting good results and I think we should not stop this fight against coughing and spitting. I believe that people should be educated right along about the droplet infection and I believe we will finally win out in this disease. We should brand tuberculosis as a contagious disease.

We can talk about housing. We made a housing survey and when we got through we decided that there was not a thing in housing. There was not more tuberculosis in the poor houses than in the others; in fact, it came out the other way. Dr. Winslow of Yale has stated that this plan that I have outlined of going after tuberculosis the same as any other contagious disease is the best plan ever yet devised for the control of tuberculosis and that is the state plan and the state law. You can talk and you can educate and you can preach until doomsday, but people go right out and do the same thing over and over again. You can take a patient to the sanitarium from some of our districts in Chicago, keep him there three months, train him so he will never expectorate on the sidewalk, so that he will carry his tissue paper with him, so he will sleep outdoors at night, and then you can send him home and in six weeks you will find him going back to the same old way of living again.

You have talked to Illinois for years. You have talked until you got your county sanitariums; you have talked to get your money to work with; you have talked to get your law. Now that you have got your law, the time to act is with you. The time to take the open case and keep it away from our children has come. I feel very strongly about this.

I am going to put this instance to Dr. Palmer personally. My father was an officer in the northern army. He had tuberculosis. He coughed and spit all the time he was in the army. He came home and had four children. I was the youngest. He died when I was ten months old. We then moved out west, where all the fresh air and sunshine in the world were to be had, out on the prairies, not near any cities. That did not prevent my eldest sister from dying from tuberculosis, my other sister dying from the same disease at 28 and still another sister dying from tuberculosis at 30. It did not prevent me from having tuberculosis in 1893. I was told to get out of

Chicago and not to study medicine because of the condition of my lungs.

There was an instance where the eldest sister was with my father six years, one four, another two, and I for ten months, and one who was with him the longest died first. She had more opportunities for receiving continuous infection.

I do not believe in my lifetime we will ever be able to clear up and stop a universal infection.

I wish we could hear from Dr. Graves about this.

DR. ADKINS (Springfield): I think we will all agree on two points—the universality of tuberculous infection and the need of our laying greater emphasis possibly on questions of personal immunity and resistance. The public is of an open mind today on the tuberculosis question so that the time has come when we can appeal to their intelligence much more than we could before. I think the question arises in the minds of many of us whether the recent influenza epidemic that is in all our minds can throw any light on the matter of tuberculosis.

Every great pandemic like this ought to be the means of throwing better light on the questions of infection, of immunity and personal resistance.

In this connection we might be interested in the results already tabulated so far as it has gone from the Framingham demonstration in Massachusetts, where men have been on the job to make a more scientific examination of the people than any other community that we know of.

Following the influenza epidemic Dr. Armstrong reports five hundred examinations made, monthly examinations, I believe, and, contrary to all expectations, only one per cent chronic tuberculosis was found, and that corresponds very nearly to the actual percentage found in the entire community.

In the Framingham experiment again they seemed to show that there was only four per cent. of their tuberculous patients infected as against 16 per cent of the general population and these were not men sick abed but respiratory cases open to the exposure.

DR. A. GRAVES: Just a word relative to what the last speaker mentioned—the immunity that tuberculosis seemed to confer upon individuals from influenza. We noticed particularly in our work that our cases of tuberculosis were not so prone to the development of influenza as were individuals who were not apparently, at least, infected with tuberculosis. Furthermore, we have been very much surprised, handling as we do at the present time about 28,000 cases of tuberculosis, that the attacks of influenza have not lightened up, or have not brought about an increase at the present time in the amount of acute infections; in other words, that the influenza has seemed to have very little effect on the cases that we can see in increasing the general tuberculosis condition.

We have met many cases of influenza that show no increase at all in the number of tuberculous cases which we at the present time treat. This, I think, is in line with what the last speaker said and is in line

with the demonstration that has been going on in the East.

I concur very heartily with what Dr. Robertson has said in regard to the enforcement of the state law. We are endeavoring to do that. I think we have good laws and I think these laws should be absolutely carried out. It seems to me there are two or three facts that are particularly important. First, the young child should be protected and should be protected absolutely from the open case. Now we can only do this by taking the open case away from the young child. Sometimes the young child can be taken away from the parents. It is better to take the parent away from the child and have the child taken care of by other service, public service, and remove the open case to the hospital and in this way prevent the infection from occurring.

It seems to me that we should be particularly careful with our school children. Every school child should be carefully examined when they enter school and if they show any of the symptoms of the disease they should be excluded from the school.

This is not only true of school children, but it is absolutely true of all our school teachers. We have in Chicago a large army of school teachers who have tuberculosis—open cases. We have in the last year taken six cases, open cases, of tuberculosis from the school teachers in the city of Chicago.

Another important point is that these teachers, when they enter the schools, every year, should show a clean bill of health. They should be examined carefully and unless they are free from respiratory disease they should not be allowed in the school. If the teachers and the children are examined and not allowed in the school, this will help us to control a situation which we know is of the very greatest importance. If this can be done and the open case can be taken care of, can be taken away so that he is not likely to infect the young children the soil which is ready to receive the tuberculous infection, we can in a very great measure, at least, facilitate what we are after—the control of tuberculosis.

DR. PALMER (closing discussion): Mr. Chairman, the English language is a very delicate thing and I hope I have not conveyed the idea that I was attempting to lay stress on one angle of a very broad subject. I believe steadfastly that the avoidance of infection will never get us very far in the warfare against tuberculosis. What I was trying to convey was this: That the agencies in their warfare against tuberculosis have been on the wrong path. It has been public health agencies in their work with children, in houses, in bringing about better living conditions, that are responsible for the decided lowering of the tuberculosis mortality.

To say that the credit of this thing is due to the medical profession I grant, but I don't think the medical profession is not included in the tuberculosis organization. The tuberculosis organization included the foremost institutions in the United States.

Dr. Robertson refers to the remarks of Dr. Vincent

on, I think, the fifty-seven different varieties of the Government agencies engaged in public health work, and he pointed out that they had a budget of \$1,500,000. Now, the tuberculosis agencies alone have expended \$2,500,000 or a million more than all the rest of them combined in their public health work.

In the discussion of a paper recently one of the men said, "It is recognized that when the American army is on the defensive it is licked." Our attitude against the tubercle bacilli is defensive and we will never get any place fighting the bug. We will have to coördinate all those agencies which promote good health before we are ever going to make a successful attack against tuberculosis.

In the fight against tuberculosis, if isolation and the fight on the bacillus is the only way out of the woods, why was it the tuberculosis mortality decreased rapidly and steadily before the tubercle bacilli was discovered?

TUBERCULOSIS INFECTION IN RELATION TO PUBLIC HEALTH.*

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CHICAGO

Does it pay to advertise? Commercial interests evidently believe that it does, and a glance at any of our leading periodicals will convince the most skeptical on this point. Commercial interests keep their particular products before the people, by using every conceivable method, to arouse a buying and using interest.

We, too, must advertise if we ever expect to have our ideas and knowledge about the "health problems" that concern human life and human happiness accepted. Therefore, I make no apology for appearing again before this section of the Illinois State Medical Society with my problem, which also is your problem, because we are the ones who are responsible for getting health problems before the people. The problem to which I refer is the tuberculosis problem and it is today the greatest health problem that concerns the human race. I wish briefly to discuss some important phases of tuberculosis infection in relation to public health.

We are familiar with the story of the great ravages of the Asiatic plague, of smallpox, of yellow fever, of diphtheria, of typhoid fever—all of these infectious diseases. They have all been either stamped out or are under control but tuberculosis, a preventable disease, is as great a menace

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to civilization today as it was before we knew how to prevent it.

As evidence of the greatness of the problem we need only to consider the number of humans who are victims of tuberculosis infection.

Many investigators have studied the frequency or extent of infection and are agreed that infection goes hand in hand with civilization: that the closer the contact of peoples and the greater their development the more universal is the infection. Autopsies made in civilized countries indicate that well over 90 per cent of humans had tuberculosis infection.

The new-born infant is free from tuberculosis, indicating that infection, if it occurs, takes place after birth. Of the more recent autopsy reports, Harbitz found 20 per cent infected at 1 year and 80 per cent at 18 years of age. The anatomical picture was predominantly that of tuberculosis of the lymphatic glands, especially those of the thorax. So much for the autopsy findings.

How about tuberculosis infection among the living? This can be determined by application of the tuberculin test. This test is as definite and accurate as the macroscopic and microscopic findings after death. The tuberculin test will reveal the presence of infection even when the lesion produced by the tubercle bacilli is microscopic.

Hamburger's report covering an exhaustive study of infection among the living indicates that 94 per cent were infected at 14 years. This same high ratio of infection is found in the reports of other investigators. Not all of these infected cases develop tuberculous disease, but 50 to 60 per cent of them do, or will before they die, and 20 to 25 per cent of these infected ones will die of tuberculosis.

At this point I wish to make a distinction between tuberculous infection and tuberculous disease, and that I may help you to understand my distinction, I will define the different conditions as I see them. By tuberculous infection I mean the state of being infected. Tuberculous infection covers all the cases in which the virus of tuberculosis has entered the body; but tuberculous infection is not always followed by tuberculous disease.

By tuberculous disease I mean an alteration in the state of the body or its organs, interrupting or disturbing the performance of the vital functions and causing symptoms of some

sort. It is the reaction of the tissues to the infection that causes the disease. It is also known as clinical tuberculosis, or manifest tuberculosis. Tuberculous disease is always preceded by tuberculous infection.

As has always been shown, very few escape infection with the tubercle bacilli. The tuberculous lesions found at autopsies did not all indicate activity, nor was tuberculosis the cause of death in all of the cases; neither do all of those who are infected with the tubercle bacilli develop tuberculous disease, but a large per cent of them do, and it is because of this fact that our problem is established. As we have presented the problem it appears that a great majority of human beings are infected by the tubercle bacilli, but do not all develop the disease, and not all of those that develop the disease die of tuberculosis. Herein lies our hope.

We must advertise these facts—give them publicity. A great amount of work has been done along this line, and is now being done, but those who have studied this problem closely realize that the progress made is very disappointing. We are not getting the results that we should. What do commercial interests do if the publicity, advertising or sales efforts do not bring results? They either change their methods or increase the amount of publicity or advertisement.

There is abundant evidence that we are not making great progress with our problem and I ask the question: *What are we to do?* In this question there is food for thought. I am sure that we must both increase our efforts and improve our methods.

Within a period of two years we have seen a wonderful organization formed and developed by the United States Government. Great masses of men have been intensively trained and humanely treated. Never was an army so well selected. The most important part of the great task was performed by and under the direction of the medical profession. We did not realize, we did not know what big things we could do until the demand was made of us. We have also seen a great organization of physicians formed. They, too, have been intensively trained. We have seen great camps built and equipped upon spacious grounds.

The buildings are well lighted, well ventilated and supplied with heat and will accommodate many thousand persons. These buildings will

easily last for years if occupied. We have seen large hospitals built and modernly equipped. These hospitals have a capacity of many thousand patients.

It is a fundamental principle that it is the duty of the Government to safeguard its people against wanton destruction from within, as well as from without. We fought to protect our country from without by the Hun. We must fight to protect this foe that is within. We entered the World War with the avowed intention to make it—the world—safe for democracy. Anyone who has tried to estimate the war's cost in human life and human suffering and money will need no exhorter to make him pray Almighty God that a league of nations, or some covenant be made and kept that will forever banish war from the world. This I believe can and will be done.

Those who have studied the tuberculosis problem and have made estimates of its cost—in human life and human suffering and money—will offer as fervent a prayer that some organized effort may be started that will deal as effectively with this foe that is within our midst.

The great cost in human life, human suffering and money, the almost universal distribution of its effects, makes the problem of this infection an economic and sociologic one and calls for international organization and effort, if we ever expect to make the world safe for humanity, and I propose this as our slogan: "Make the World Safe for Humanity."

We have just recently helped wage a world war at a cost to us of a hundred thousand lives and billions of dollars for the avowed purposes of making the world safe for democracy, and we agree that it was wise and glory in the part we played. I am sure that no man, familiar with the tuberculosis problem, will question the statement that if one-tenth the number of lives and one-tenth the amount of money were spent in a war on the bacillus tuberculosis—the Hun of the bacteria—which is as great a menace to humanity as the Hun was to democracy, the activities of the bacillus tuberculosis will be as effectively curbed.

We are told that physical preparedness for war is the best kind of preparedness for peace, for industrial progress, for a forward and upward movement of civilization. If this be true, and I am sure that it is, then the first thing we must consider is the physical care of the humans that make up this civilization.

This is our responsibility, and it will require action and co-operation. Reading papers before medical societies or discussing the same is not enough, and I plead for your co-operation in some action to the end that a movement be started for this purpose that will be international in its scope. It is necessary that a drive be made against tuberculosis, and *now is the time*.

Why should we tear down and destroy the great camps and hospitals? Why let all the doctors, nurses and sanitarians, who have been especially trained, go back into civil life? Why not the United States Public Health Service be given the power to muster them into active service, and our Government be given the power, if need be, to make a Health Bond Issue to carry on the work? Do you think that it would take as much effort to place such a loan as it took to float the Victory Liberty Bonds? I think not. If we gave the object to be attained and the results that would follow the same amount of publicity suffering humanity would over-subscribe to these Health Bonds.

Give the United States Public Health Service authority to spend the money, employ these physicians, nurses and sanitarians. Let them outline a campaign covering 3 to 5 years, and make a national survey. Use these camps and hospitals for the care of the sick and success will crown our present insufficient efforts.

HYPERESTHETIC ETHMOIDITIS*

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The above term I have suggested to include a group of symptoms, described by various authors under the title of Rhinitis Nervosa, Rose Fever, Spring Catarrh, Vasomotor Rhinitis, Coryza Vasomotoria Periodica and Nasal Hydrorrhea.

The symptoms of all the above named conditions are constant and the clinical intra-nasal picture, as well as some associated conditions, are always the same; the prognosis and treatment are practically identical, but the existing etiological factors may vary and be due to and influenced by a wide number of conditions.

I have found that a great majority of our cases are in young female adults, mostly in unmarried women, although it does occur in married women and occasionally in the male.

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The symptoms of this disease I described in a previous essay¹. It simulates hay fever or hyperesthetic rhinitis to a greater degree, except in its time of appearance, its duration and severity, and is in no way associated with the ripening of the various pollens, to whose inhalation hay fever has been ascribed. On the contrary, those of my patients who have had these symptoms for a number of years inform me that the attacks scarcely ever occur during August or September, but if they do, the severity of the attacks is lessened. As stated, the attacks come on at any time of the year; they are irregular in the time of their appearance, duration and severity. The paroxysms are often brought about by contact with, or inhalation of, a specific kind of perfume, a particular flower, the odor of various animals, a slight draft of air or the inhalation of ordinary dust following an automobile trip or train ride, or may come on apparently spontaneously.

These paroxysms begin usually just upon arising, with attacks of sneezing, varying in number from five to fifty times, followed immediately by a profuse watery discharge from the nose. At the same time there is a reddening of the mucous membrane of the eyes, accompanied by profuse lachrimation. The nose becomes blocked and breathing is naturally difficult. These symptoms may be of short duration, an hour or so, or they may continue for six or eight hours and suddenly abate only to reappear on succeeding days or when the patient is again brought into contact with the specific irritant. Some of these acute attacks may continue for a week or ten days, and some only a day.

If the nose is examined between these attacks, the appearance is usually normal except possibly a slight paleness of the mucous membrane. During the attack, however, the turbinates are swollen, soft, pale, edematous and have a boggy appearance. This is especially true of the inferior and to a lesser degree, of the middle turbinate. The mucous membrane of the septum is also pale. The eyes are red, the conjunctiva is injected and at times there is an accompanying itching.

The secretion is thin, watery and acrid. After a few days of the attack the upper lip becomes irritated and excoriated from the constant clearing and blowing of the nose and from the acrid reaction of the secretions. Even the entire tip

of the nose may become red and swollen from the same cause.

The etiology, i. e., the underlying pathological condition of this disease, has not been determined.

The exciting factors are well known in a large number of cases, some of which have been previously mentioned. Other patients, however, cannot account for the sudden onset of the unpleasant symptoms; some stating that, so far as they knew, they were in perfect health the night previous, but upon awaking they realized by the intensive sneezing spells, which they experienced, that another attack was approaching. These were always followed by the complete syndrome above described.

In this connection I desire to cite a portion of Dr. G. Sluder's views on this condition, which he describes in his recent book under the chapter of "Sympathetic Syndrome of Nasal Ganglion Neurosis." He says that "it is not possible at present to explain the various nerve manifestations produced by an inflammation of the nasal ganglion." For a number of years he has thought that these were symptoms of the sympathetic which supplies the nasal ganglion. It is generally admitted that one function of the sympathetic nervous system, among others, is vasomotor and secretory. It would seem that it is a lesion of the sympathetic elements of the nasal ganglion that explains this vasomotor secretory phenomena. My reason for drawing your attention to this point is that, under the subject of treatment the ganglion with its direct treatment plays an important role.

The diagnosis of hyperesthetic ethmoiditis is comparatively simple when once the condition is in full force: an intensive violent sneezing attack, followed by a profuse hydrorrhea, a thin watery burning secretion, which may persist from several minutes to several hours, a blocking of the nose, profuse lachrimation and itching of the eyes. These violent symptoms may suddenly abate and the patient feels fairly free from all symptoms until the succeeding day, when they are repeated. It simulates very closely the attacks of hay fever, except that, in the latter, usually after a sudden onset there is no sudden abatement of the symptoms. There are repeated attacks at any time of the year, especially if brought in contact with the special exciting

cause, such as perfume, dust, powder, etc. The diagnosis is further verified by inspection of the nose. The extreme paleness and succulent condition of the turbinates and of all the mucous membrane of the nose is pathognomonic of this symptom complex. This syndrome must be differentiated from hyperplastic ethmoiditis, in which condition we frequently get symptoms of sneezing and hydrorrhea. In this later condition we have distinct pathology of the mucous membrane and the turbinates which has been described in a paper by my associate, Dr. Joseph C. Beck. There is usually a polypoid degeneration of the turbinates or true polyps; also associated headaches, asthma, etc., but never the succulent pale turbinates, which are found in hyperesthetic ethmoiditis. We must also differentiate the symptoms from true hay-fever, but the latter condition is so characteristic in its time of appearance and presents such distinctive symptomatology, that it is needless for me to emphasize the differentiation of the two conditions. In cases of meningocele, there is often an escape of cerebro-spinal fluid, which of course, must be differentiated from the hydrorrhea accompanying hyperesthetic ethmoiditis; also from hydrorrhea and turgescence described by Fein in connection with sexual excesses and irritation.

The prognosis without intervention is bad, as the attacks invariably return, and, while they do not seriously undermine the general health of the individual, they cause a great deal of annoyance and discomfort. With the proper treatment, the prognosis is good and nearly every case will respond to the treatment. The spontaneous attacks will not occur, the paroxysms only recurring after violent contact with or inhalation of the irritating substance, and then they are mild in character, short in duration and very little of the concomitant symptoms are present.

Treatment: In a paper², which I published four years ago, I advised the injections of the sphenopalatine ganglion as a cure for this syndrome, stating that I obtained positive results in nearly every case thus injected. That report was given out several months after the various injections had been performed; since then I have had a few recurrences in these injected cases.

This procedure is quite simple and I still believe is worthy of a trial in all cases except where the economic conditions prevent same

being attempted. By this I mean that if the patient comes from a great distance to obtain relief and desires a permanent relief, without much chance of recurrence, I believe it is better to proceed to the more radical treatment, i. e., bilateral ethmoid exenteration.

There is no special method of performing this operation, but it is very important that a complete exenteration be done, either with or without the removal of the middle turbinate. I, personally, prefer to remove the turbinate at the same time, unless there is some special contraindication. In other words, when the patient presents himself with the typical symptoms of a hyperesthetic ethmoiditis and the diagnosis is made, we wait until the acute attack has subsided and then proceed with the treatment.

The sphenopalatine injection is performed in the following manner:

The posterior end of the middle turbinate and the mucous membrane behind same are thoroughly cocaineized with a twenty per cent solution. The hollow sword needle of Sluder's, which is a straight needle $5\frac{1}{4}$ inches long with a cross bar near the end, is then introduced from the septal side of the nose and the posterior end of the middle turbinate is transfixed. The needle is then pushed upwards, backwards and outwards, through the bony wall, which is the anterior boundary of the sphenomaxillary fossa in which the ganglion lies surrounded by connective tissue. A 5 cc Luer syringe, filled with a one per cent phenol in ninety-five per cent alcohol is attached to the hollow needle and a few drops, 5-15, are injected. Often the bony wall is so thick that it is necessary to employ the mallet to drive it through.

In the great majority of cases this prevents subsequent attacks, but, as stated before, if attacks recur, the exenteration must be resorted to. The following clinical case illustrates the entire subject quite thoroughly.

Miss C., stenographer, aged 25 years. Referred by family physician April 8, 1916. States she has had trouble with nose for two years, this being attacks of severe sneezing, with a great deal of watery discharge following same. She also states that she feels the irritation which brings about the sneezing attacks, is located on the left side of nose. Uses eight to ten handkerchiefs after sneezing attacks. Her family physician cauterized the nose some time ago and also used some stock vaccines. No throat nor ear symptoms were present. Does not breathe through the nose very well at any time during or between attacks.

Condition is some better in the summer. Patient states that nostrils seem to be getting smaller.

Examination Nose. Right side. Some mucus present. Mucous membrane rather pale; not much breathing space.

Left side. Same condition. Can hardly see any of the structures, due to boggy appearance of inferior turbinate which is pale. Vestibulitis on both sides. No fissures.

Mouth. Teeth in repair, good condition. Small submerged tonsils.

Ears, right and left, normal.

After shrinking with a five per cent. cocaine solution, marked irritation of the mucous membrane of the nose can be determined, and a thickening of the septum high up is seen. Ridge pressing against inferior turbinate posteriorly. Anemic middle turbinate.

Left side. Ridge extending all the way back. Cannot see middle turbinate on account of this ridge. Discharge present, which is clear.

Subsequent history. Patient further states that she cannot use powder on nose as it irritates. Lavender also irritates.

Diagnosis. Hyperesthetic ethmoiditis.

X-ray pictures show normal sinuses. Advise submucous and left ethmoid extenteration.

May 2, 1916. Under local anesthesia, a submucous resection of the septum was done in the usual manner and a left middle turbinectomy and ethmoidectomy at the same time.

May 10, 1916. Uneventful recovery. No more sneezing.

July 2, 1916. Has a great deal of sneezing and discharge from right side of nose for past ten days. Examination shows left side in good condition. Right vestibule excoriated. Advised alcohol injection into right sphenopalatine ganglion.

July 5. Injected right sphenopalatine ganglion.

August 27. Has had no trouble since the injection.

April 29, 1917. Has been sneezing a great deal for past two weeks and complains of irritation from the right side. Also a great deal of watery discharge from right side. Advised right ethmoidectomy, which was done with removal of middle turbinate. Uneventful recovery.

On June 22, 1917, she writes: "My nose is in fine condition, breathing capacity much improved and no sneezing."

July 18, 1918. Has had no trouble since last operation and feels fine.

In order to obtain a report as to her present condition I wrote regarding same and on May 10, 1919, received a letter in which she states: "I am feeling fine and have had practically no trouble since my last visit."

1. The injection of the sphenopalatine ganglion in some commoner diseases of the nose. Illinois Med. Jour., 1915.

2. Concerning some headaches and eye disorders of nasal origin. Greenfield Sluder, 1918.

DISCUSSION

DR. JOHN A. CAVANAUGH (Chicago): I thought some of these cases can be taken care of by local

treatment without this radical procedure which the doctor advocates.

One patient, a young lady, asserted that every morning at home, when she arose, she had these sneezing spells but while on a visit to some friends on the south side of the city she had no such attacks. As soon as she got back home to her room, the next morning, immediately the attack came on. On removal to another part of the house she had no such trouble.

He found suction and atropin or belladonna will aid some of these cases. More severe types in which these local treatments do not do any good. More radical treatment is indicated.

DR. OLIVER TYDINGS (Chicago) has never failed to find some pathology in the nose the correction of which would give relief. It may be necessary to straighten the septum, to cauterize over the turbinal bones or to go to the extreme extent of opening up the ethmoids, but whatever surgical procedure is necessary in these cases, atropin will give some relief. There are also various mineral oils and various applications that are well known, such as adrenalin. He had not used cocaine for those cases in a good many years as he found that it did more harm than good. The same may be true of adrenalin where persistently used.

There is no question but what the injections that Dr. Pollock speaks of will give relief and will give absolute relief and in a very few minutes but, at the same time, whether that is the best way to do in every case is a question. The etiological factor that starts it will keep it in existence until it is cleared up, and to clear it up should be our aim.

DR. HARRY C. POOLE (La Salle) asked the essayist whether in those cases of idiosyncracies Dr. Cavanaugh mentioned he would recommend the radical treatment or would he try to keep the individual away from the exciting cause of the trouble? He had in mind a child of about twelve years who has hyperesthetic ethmoiditis, the attack being brought on by the dust from horses, if she attempts to ride in a buggy or gets near a barnyard where there are horses.

DR. GOODE (Chicago) agreed with Dr. Tydings that in hyperesthetic ethmoidal conditions there is an underlying sinus disturbance, not necessarily a suppurative affair, but an impairment of drainage to some extent. You will sometimes find these cases all at once giving as much as a teaspoonful of liquid running from the nose. Where was it stored up? It was stored up in one of the sinuses. If the symptoms are severe enough to inject the sphenopalatine ganglion, he would rather clean out the ethmoid cells first, and if that doesn't do the business, then inject the sphenopalatine ganglion.

He thought that where you clean out the ethmoid cells you will find this condition is relieved, providing your drainage to the frontal sinus is sufficiently opened. That can be determined after the ethmoid cells are removed.

After the removal of the ethmoid cells he believes

it is very important to apply tincture of iodine on an applicator to the entire roof of the nose to prevent meningeal complications.

DR. POLLOCK (closing discussion): Mr. Chairman, I am sorry that I was unable to read all of my paper because in the paper some of the points are covered that have been brought up here.

I stated in the paper that before we make a diagnosis all forms of sinus diseases, as far as possible, are excluded. I give the differentiation between hyper-esthetic ethmoiditis and hyperplastic ethmoiditis and meningocele, and the discharges which Professor Fein has shown are due to sexual indulgences and irritation. I have tried to make it explicit that if you examine the nose between the attacks, the conditions practically will be found normal; you can never look in any nose and see a normal nose. You have always got some spurs or little slight defects. In this case that I recited there was a bad reflected septum with a ridge, and I removed that. She had these attacks until I did a bilateral exenteration.

I agree with Dr. Goode that possibly you can reverse these conditions. I said that the injection is a more simple procedure than ethmoidectomy. You are not removing any tissue of the nose. Some patients will object to an operation of removing tissue from the nose, while they will not, in my experience, have an objection to injecting a little alcohol, which is a very simple procedure.

As I stated, some of these recur, and if the patient wants relief without any danger of recurrence, then I do the ethmoid exenteration. Some of these milder cases, to which Dr. Cavanaugh referred will clear up. In the paper I said that I treat the acute condition first. I don't operate on these conditions during the acute attack. They will all subside by suction or atropin and the like when the irritation is removed and when you get away from the cause of the irritation. I have no doubt at all that the case the doctor spoke of, because I have had dozens of similar cases, would not get this attack if the patient were not brought in contact with that specific irritant which acts as an idiosyncrasy to that particular patient. I can smell lavender and take auto rides and it doesn't effect me. The underlying etiological factor is not known. I think it is due to some disharmony of the ductless glands which brings about this condition which simulates asthma and hay fever, and so on, and the exciting cause is one of these things about which we know.

As I said, I had two young, unmarried women who worked in Fields', and any time that a customer came in with any sachet, they would immediately get these attacks. Both of these patients were cured by the process I mentioned. Of course, it is much simpler to remove your irritant than it is to do an operation. I advise Dr. Poole to have the patient stay away from the horses, but that, of course, it is sometimes impossible to do. I would certainly advise a bilateral ethmoid exenteration. It is very simple and is easily done without any danger to the individual.

I think that after you read the paper and see these various points that I have covered in the paper, you will find that I have practically touched upon all these things which the doctors have mentioned.

As I stated before, it isn't a serious disease; it isn't dangerous. A bilateral exenteration will cure it except when brought in touch with a very violent contact. By that I mean I have had a patient who couldn't stand an automobile ride because of the dust. After I operated on her, she would take a long automobile ride and if it was exceedingly dusty she would probably use two or three handkerchiefs and that would be the end of it.

DR. TYDINGS: One word on which I want to disagree with the essayist, and that is that it is not necessary to remove the turbinates to clean out the ethmoid.

DR. POLLOCK: I said it could be done with or without the removal, but personally I preferred not to remove them. It can be done with or without.

DEFINITE TREATMENT OF THE PNEUMONIAS. TREATMENT OF INFLUENZA.

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The definite treatment of the pneumonias is so called because it uses definite agents for definite purposes on definite indications.

Laboratory work has shown that quinine dihydrobromide possesses exceptional merits for administration in pneumonia. All cinchona derivatives are powerful germicides against the pneumococcus, and all of them prolong the life of animals experimentally infected with pneumonia germs or poisoned with the pneumotoxin of Cole, or with the lung exudate extract of Cohen, Kolmer and Weiss, from two to four days beyond the life of control animals similarly infected or poisoned. Quinine is used therefore as an antibacterial and antitoxic agent. Its value was established clinically long, long ago; the explanation has been forthcoming only recently. Pneumonia and malaria offer in this respect (value of cinchonics) a close parallel. Those who deny the value of quinine in pneumonia do so blindly and from prejudice. They haven't tested it and cannot know.

Tested by the antiseptic method of Kolmer, quinine salts kill pneumococcus cultures of type I, II and III in dilutions of from 1:20,000 to 1:200,000; the sulphate being the least powerful,

*Read by Dr. Wm. B. Peck, Freeport, Illinois, before the Jo Daviess County Medical Society, November 13, 1919.

the dihydrobromide the most powerful. Both hydrobromide and dihydrobromide possess the peculiar property of being more active in serum than in salt solution. While the other cinchona derivatives lose in germicidal power from 10 per cent. (in the case of quinine salts in general) to 80 per cent. (in the case of ethyl hydrocuprein) when the test is made with serum instead of salt solution as the suspension medium, the hydrobromide and the dihydrobromide increase in power 100 per cent. Since action in the body takes place in a medium of serum or some analogous fluid, it will be seen how valuable therapeutically this peculiarity of the bromide salts of quinine is. Moreover, although cinchonism is almost unknown in lobar pneumonia, no matter what salt of quinine is used, it does occur in a certain number of cases of catarrhal pneumonia when the ordinary quinine compounds are given in dosage; but very rarely occurs when the bromides are used. It can be still further guarded against, if need be, by the association of ergot with the quinine compound; and ergot itself is of considerable value in the pneumonias through its action upon the vessels.

The doses must be large. Small doses are futile. To give them is playing with the drug, not using it. The ordinary plan is to give 25 grains of quinine dihydrobromide by mouth as soon as the patient is seen, and to repeat every three to four hours, 5 to 15 grains, according to effect, as indicated by the reduction of temperature. Reduction of temperature is not the object of the treatment, but is an index to the full physiologic action of quinine in a patient having fever. A single dose will often bring the temperature from 105° F. to normal. In that event the dose is cut down to 5 grains, repeated in four hours. If, on the contrary, the temperature is brought down only 2°, the second dose would be 15 grains, and the third after three hours more, 10 grains; and so on, according to effect—aiming to keep temperature at about 100° F. Patients are not to be waked to have temperature taken or to get medicine.

The hydrobromides of quinine are not suitable for intramuscular injection, not being sufficiently soluble; but may be used for intravenous injection in 0.5 to 1 per cent. dilution in physiologic saline solution. The dose then is about 10 to 15 grains in 100 to 250 mls of the hot saline fluid; subsequent doses being given by mouth in the same

way as when the first dose is also given by the mouth. The initial intravenous injection should be used when the case is severe, or when the patient is not seen until the third day or later. For intramuscular injection, quinine and urea hydrochloride can be used in 15 to 25 grain doses every 3 hours, with proper precautions to avoid slough.

The most practical expedient in private houses generally, is to give the dihydrobromide by mouth; having 5 grain capsules made; and to use from 1 to 5 at a dose, according to the indications.

The use of quinine must commonly be supplemented by that of a trustworthy preparation of the posterior pituitary principle, given intramuscularly every three hours until systolic pressure in millimeters of mercury exceeds the pulse frequency in beats per minute by 5 points; that is to say, if the pulse is 120, for example, the systolic pressure should be brought up to 125, if possible. In cases of hypertension, the pituitrin may not be needed.

Digitalis is given routinely in doses equivalent to 1/2 grain of good leaf, or 5 minims of good tincture, every four hours, from the beginning, to digitalize the heart. Should respiration frequency rise, or diastolic blood pressure in millimeters of mercury fall so far that the two curves tend to approach within 10 points, or should the diastolic blood pressure remain below 60, independently of respiration frequency, digitalis is increased to full doses (say 30 minims of a good tincture, or 3 grains of good leaf); preferably using some preparation suitable for intramuscular, or at least hypodermic, injection. This is repeated every fourth hour until the interval of 10 points is attained and maintained. Larger doses may be given if necessary. In the pneumonias, rise of diastolic pressure shows the digitalis effect. It is both purpose and index.

Such treatment is not a substitute for fresh air, which must also be provided; preferably cold air and open air for lobar pneumonia in robust adults; warm air (60° to 70° F.) in bronchopneumonia; and for children and the aged, a temperature of 70° to 80° F., irrespective of the pathologic type of the malady.

As to bacterins and serums, these may be used in conjunction with the definite treatment if desired. To put it the other way round, quinine, digitalis and pituitrin administered according

to the *definite plan* may be used to aid specific serum when this is obtainable; and without the serum when it is not obtainable. It is only in type I infections that serums have thus far proved useful on any large scale, and even here their value is but slightly greater than that of quinine and its supplementary drugs. Nor is it always practicable to administer the specific serum in the quantity and manner necessary. Although the value of bacterins is still in dispute, there is no question in the minds of many competent observers of their efficacy when used properly, *i. e.*, early, and in mixed and sensitized cultures. Still, for the present, the chief dependence, especially in type II, type III and type IV infections, must be upon drugs; and no drugs can compare in therapeutic efficacy with quinine, pituitrin and digitalis, administered according to the definite indications of the definite plan.

Other agents, as oxygen, atropin, camphor, strychnin, etc., are reserved for special indications. The urine is kept alkaline and the urinary output is maintained at not less than 2 liters, and if possible 3 liters (quarts). During convalescence strychnin sulphate (1/60 to 1/30 grain) in Basham's mixture (half an ounce) is given thrice daily for a week or two.

Concerning influenza. Bacterins (mixed streptococcus, pneumonia and so-called influenza) are useful both in prevention and treatment. Their chief value is in preventing streptococcus infection, or diminishing its virulence; secondarily in preventing or lessening pneumococcus infection. Every case should be regarded as a potential pneumonia from the beginning, and kept at absolute rest for ten days after fever disappears. Otherwise, even if pneumonia does not develop, heart disease will. The heart weakness may not show for six months, but it's there from the first. That is the reason acetanilid, phenacetin, aspirin and the like should not be used. They don't always kill, although they do kill in many cases; but they always injure the heart—even when the patient escapes with his life for the time being. They act as aids to the influenza poison. To oppose the influenza poison one may use cocain, strychnin, atropin, digitalis, ergot, according to indications. Most cases are helped by giving at once ammonium or sodium salicylate, or sodium benzoate, or both, in doses of 10 to 15 grains every two hours till the ears ring; then every four or six hours. The salicylion

is useful in influenza; but the acetylion is harmful. That is why sodium salicylate is useful and salicin is useful, but aspirin (acetyl-salicylic ester) harmful. A solution of the salicylate or salicylate and benzoate can be made up with nux vomica tincture (20 minims), infusion or wine of coca erthroxyton (5ii) or fluid extract of coca (5i), whichever is available; and liquor ammonii citratis to make the dose a tablespoonful or more. The coca covers the taste beautifully. Moreover cocaine is the direct and almost complete physiologic antagonist to the influenza poison. It stimulates and sustains the functions which that poison depresses. "True" salicylate and benzoate are to be preferred to the synthetic products unless these last are 100 per cent. chemically pure. The common impurities irritate the stomach and kidneys. The urine must be watched carefully for any sign of renal irritation and the medication is to be modified, should such appear. If a sedative seems necessary, on account of cough or restlessness, half a dram of paregoric or a small dose of codein ($\frac{1}{8}$ grain) or bromid (5 grains) may be added to the dose. Heroin is to be avoided, just as aspirin. After three days the mixture is to be stopped and quinin hydrobromide given in doses of 5 grains every three hours; or if there is actual pneumonia then the full dose with the pituitrin and digitalis. Alcohol is highly useful and often imperatively needed.

Cinchonia and vux vomica help convalescence.

ORAL FOCI OF INFECTION FROM THE DENTIST STANDPOINT.

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The question of oral foci infection has been thoroughly discussed by many writers until it has almost become trite, nevertheless, in spite of all this, the wide difference of opinion that exists about the subject is appalling. Why is it that no definite basis of agreement has been arrived at between the medical and dental diagnostician as to the real significance of oral foci of infection? Even at this late date some are inclined to attach very little importance to it while others go to the other extreme and place the greatest significance to it, believing that foci of infection about the roots of teeth are the sole source of secondary

infection to the practical exclusion of all other foci. Such a wide difference of views does not exist in other branches of medicine. The writer feels that the reason for such a diversity of opinion lies in the fact that insufficient instruction in pathology and lack of instruction in bacteriology in our colleges is at the bottom of the evil. As long as we possess limited information and entertain narrow points of view it is hardly to be expected that we shall arrive at a scientific conclusion on this important matter. The number of physicians and dentists who are satisfied in making an empirical diagnosis is fortunately decreasing for many have learned by sad experience that such methods of diagnosis are generally wrong, with the result that the treatment and prognosis is usually disappointing in results.

Not many years ago we gave very little thought to the etiology of, for example: pyorrhea alveolaris. Today we assign a number of causes to this condition. Some of the etiologic factors are well known to all. We may count among them chronic irritation due to tartar, decay and defective work, insanitary conditions about the mouth, with resultant lodgement and putrefaction of food particles, constitutional and metabolic reactions, faulty articulation, and bacterial and parasitic causes. The organisms generally found in this latter phase are the various members of the streptococci group, spirochetes and fusiform bacilli. The two latter are often found in typical cases of Vincent's angina, also many types of putrefactive bacilli, ameba, etc. The micro-organisms present in septic pockets about the teeth are very numerous.

Upon examining the exuding pus in pyorrhea pockets, we find a number of the above named organisms present, but by wiping away the superficial discharge and making a direct smear or a culture of the deeper accumulations we find streptococci and staphylococci predominating, the streptococci often being present in pure culture, usually as the streptococcus viridans variety.

While it is very unlikely that any of these organisms are the specific causative agents of the pyorrhea, it is generally agreed that most of them may become pathogenic and under suitable conditions are capable of producing acute and chronic local inflammation.

It is of greatest importance always to trace focal infection and not merely to make a snapshot

empirical diagnosis, ascribing the cause to some dental trouble, just because such a point of view happens to be the prevailing and fashionable viewpoint at the present time. It is needless to state the utter worthlessness of any such diagnosis, made without all the substantiating evidence obtainable from laboratory findings. One must constantly remember that it is unlikely that any of the organisms mentioned ever cause local or systemic infections, unless at the same time there is some pre-existing abnormal condition present which diminishes the resistance to the invading organisms or their toxins. Bacteriologists are fast changing their views with regard to specific infections and it is of vast importance that the matter of toxemia be considered seriously; thus in all questions involving infections, it is necessary to take into consideration the fact that while it is true various organisms, according to Vaughan of Ann Arbor, have their individual toxins which may be more or less harmful, all organisms have one common toxin, namely, their *albumose constituents*, the latter being largely contained even in organisms of a saprophytic nature. This common toxin is now being accepted as playing rather a preponderant role in most infections. Further the entire potentialities of the body must be considered for they all come into play. It is entirely fallacious to confine one's investigations to a limited sphere without giving due consideration to the entire body forces.

In studying these cases it is essential to avail one's self of all scientific knowledge and laboratory research. It is just as wrong to belong to the ultra-conservative group who look upon this as a passing fad, as it is to belong to the overzealous class, as the opinions of both groups are based on insufficient experimental facts. It is proper at this time to approach these studies with an open mind, being constantly on the alert for new and substantiated facts, and constantly guarding against unwarranted generalizations and conclusions or expressions of views derived from ultra-scientific investigations leaving out of consideration as is frequently done the natural sequences of life principles.

We may define a focal infection as a circumscribed lesion of a bacterial nature, later resulting in infection of a contiguous or non-contiguous part by the same bacteria or their toxins.

From this definition it is clear that even if the

presence of bacteria in a circumscribed area is demonstrated, that of itself does by no means constitute a focus of infection. It is an old established fact that bacteria may be present in certain parts of the human body for long period of time without creating bodily infection at all, and without even producing local symptoms. For example, the organisms of diphtheria, pneumonia, spinal meningitis and many others are frequently carried about by perfectly healthy people for a great length of time and these people are entirely ignorant of the fact that they harbor organisms of such a highly infectious nature.

Whether this peculiar condition is due to the organisms present being in such a low state of virulency that they are harmless, or are walled off, or that the host does not seem to be in a receptive state for their ill effects, or that reaction factors in their surrounding media are unfavorable, matters not. One thing we must admit, namely, that these organisms, although present in these patients, do not necessarily cause local or systemic disturbances and do not constitute foci of infection. Failure to recognize these facts will lead inevitably to much misdirected effort and to a disappointing treatment. However, another factor has recently been injected into the consideration of infection. It has long been known that occasionally certain infections have a restricting influence on the development of other latent infections, but Joseph Miller and Dr. Lusk, both of Chicago, have recently shown that a great tendency exists for numerous infections to light up more serious, but latent, infections, even though the two may be caused by different bacteria. Their theory is probably explainable by the theories of allergic reactions, or by the fact that the common albumose toxin has a greatly stimulating effect on such latent unsuspected infections, as, for instance, a walled off tubercular focus. That these theories are correct clinically has been proven repeatedly by these able investigators.

It is important to note that in growing the organisms which interest us in the laboratory, various kinds of media are used, and for the development of streptococci only blood agar is suitable, otherwise the streptococcus viridans, for example, will not grow at all. In the cases that have come under the writer's observation, he has obtained excellent results by using 10 c.c. of ox blood in 90 c.c. of 0.8 per cent. of agar. On this medium

the streptococci viridans will appear usually after twenty-four hours' growth at body temperature, showing the characteristic small green colony, and the hemolyticus with its small hemolysed areola. It is further to be noticed that any degree of selectivity that organisms may possess is rapidly lost in their artificial reproduction and that, therefore, any experiments to be made with them which include the activities of the selective factor must be carried out with organisms grown on special brain culture media and not after such artificial growth is more than seven or eight hours old as otherwise the selective factor will have been entirely lost.

It might be worth while to say a few words about the spirillum, which is associated with a fusiform bacillus found in large numbers in Vincent's angina. These organisms are found in normal individuals in the gingival margins about the teeth and within the crypts of the tonsils. They are sometimes found in almost pure culture in severe cases of pyorrhea. This disease may progress rapidly, causing destruction of the soft tissues and alveolar process, even in patients whose teeth and gums before such infection seemed to be quite normal. It is more often seen, however, in individuals who are careless in the care of their teeth. This condition yields readily to local treatment. The statement often made that these cases do not permit of any instrumentation whatever, is surely fallacious, true, rough or unskilled curetting and scalding is not permissible, but all irritating concretions or foul matter should at once be carefully removed, the part painted with two per cent. chromic acid solution and followed by an application of forty per cent. tincture of iodine and the patient instructed to use liberally a mouth wash made up of a ten per cent. solution of permanganate of potash. This organism, together with the spirillum, can best be stained for microscopic examination by using carbol fuchsin for one minute, heating the slide gently after adding the stain.

Should an oral focus of infection actually be demonstrated then there are two other factors that are essential before the host will suffer from constitutional derangements of any kind, namely, the bacteria or their toxins must spread by metastasis or must enter the blood stream, and the local area to become secondarily infected must be in such a state of lowered resistance that it will receive the organisms or their toxins, and permit

of the propagation of the bacteria together with a possibility of their virulent faculties to develop. In other words, there must be a *locus minoris resistentiae*. The presence of bacteria somewhere in the oral structure with a synchronous appearance of arthritis or endocarditis is by no means any evidence that one is due to the other. It is true that under proper auspices an oral infection might produce endocarditis, but discriminating care should be exercised in determining a diagnosis, for let us not overlook the fact that alveolar infections are frequently present in the young, particularly in the children of poorer districts it, nevertheless, is but comparatively rare that we find these children suffering from endocarditis unless they have previously suffered from attacks of tonsilitis or scarlet fever.

It would seem, therefore, to definitely associate endocarditis or for that matter, arthritis, always with dental foci of infection is at least a very debatable standpoint to assume.

It has been claimed that in some cases of skin diseases, for example, eczema, oral infection has played a distinct part. Billings and others have reported cases of disseminated sclerosis and iritis as probably due to this cause without, however, giving any substantiated evidence. In the writer's opinion, such cases as these depend etiologically on a general toxemia resulting from bacterial decomposition whether the bacteria be pathogenic or saprophytic matters not. The albumose contents will be as toxic in one case as in the other but, of course, such toxins do not necessarily come only from dental infections. Furthermore, the effect of one mild infection accelerating the activity of another mild or dormant infection should in this connection not be lost sight of.

About a year ago it was reported that rabbits injected with streptococcus viridans obtained from human alveolar infections had in all cases and by virtue of peculiar selective characteristics of the organisms, attacked the serous and synovial membranes of these animals, all of them showing arthritis and endocarditis. The attempt was made thereby to prove that the streptococci contained in granulomas at the root ends of teeth had a very definite bearing on the sequential results, namely, endocarditis and arthritis. These experiments have been widely discussed and also by men who lack scientific training and who accepted the statements as facts. In these experiments

the endeavor is made to prove the constant selectivity of organisms. It is claimed that when organisms are obtained from such locations as human tooth granulomas and abscesses at the apices of teeth, particularly when obtained from patients suffering simultaneously from arthritis, their introduction into the ear vein of rabbits invariably attack the synovial membranes of such animals, and that this shows their tissue selectivity for this particular tissue. Such findings, however, *do not prove any such fact*. It has since been found that any organisms introduced in such manner attack the synovial membrane producing arthritis and endocarditis. This includes streptococcus viridans obtained even from healthy human mouths. Evidently it is not the selective action of organisms that produces these results, but it is the fact that these particular tissues are very amenable to such attacks by any organisms, not a chemotactic process between the organisms and the tissue at all. Many investigators have repeatedly proven the fallacy of the selective factor and have demonstrated the same end results, namely, arthritis and endocarditis in rabbits by injections of bland chemicals, and as has been shown by Professor Rufus in New York, Joseph Miller of Chicago, even by the introduction of plain egg albumin. (Furthermore, we all know that rabbits are particularly susceptible to the activities of streptococci, just as other animals show particular susceptibility to other organisms, as for instance, the white mouse to the pneumococcus). Naturally, many such cases have been cited as proof of these theories when, as a matter of fact, the animals had actually been so overdosed with bacteria that they exhibited all symptoms which would naturally be expected in an animal suffering from a general septicemia.

Rheumatism has, for a long time, been ascribed by the medical profession at different periods to different organisms, and at present the etiologic factor seems to be commonly accepted to be the streptococcus viridans. The name rheumatism simply describes a complex of symptoms, such as arthritic disturbances, changes of temperature and involvement of the serous and synovial membranes, including that of the endocardium. The more definite information which we are obtaining from bacteriologic laboratories tends to show that some different forms of arthritis are due to specific organisms; for example, such as gonorrheal arthritis in typhoid and diphtheritic arthritis.

Others again depend upon a general toxemia. All of these are classes of arthritis which certainly do not depend for their etiology on streptococcus infections derived from oral foci and no doubt as time progresses we shall hear of other forms of arthritis which will be linked in name to their specific causative organisms. It is, therefore, clear that all cases of arthritis are by no means due to the streptococcus viridans and certainly not to those only found in oral infections.

An infection, as we have previously stated, is a morbid bacterial process in which the organisms or their toxins have found their way into the blood stream and by a process of dissemination have established similar bacterial seats of infection in tissues, either contiguous or non-contiguous.

It seems that when we speak of infections we usually refer to the absorption of bacteria and only seldom refer to what is at least as important toxemia due to the general toxin contained in all organisms. Evidently the dividing line between endo- and exo-toxins cannot be drawn too definitely. Toxemia refers to the absorption of bacterial poison. It is not necessary, therefore, in order for a secondary infection to take place, that bacteria with their specific toxins must be transferred from one situation to another, but the harmful results of same may be produced by their general toxins or albumose constituent. This also is equally true of saprophytic organisms.

Organisms may do their harm directly to the tissues, or their toxins may so hinder the defensive powers of the body as to permit or invite the future attacks of organisms from entirely different sources altogether.

The entire surrounding media of the hormones of the internal glands may thus be changed by the results of toxic infections, and as our antibody production is in large measure dependent upon the proper activity of these hormones, it may be much decreased by such effects. These toxins do not necessarily have to come from oral foci of infection, as there are many other sites of possible foci of infection which may produce just such toxins. This may account for some of the obscure cases of arthritis which are produced by albumose toxins lowering the resistive power of the serous and synovial membranes, so that bacterial invasion from the same or from still another source is invited.

Naturally, deep-seated infections and general

sepsis must have their cause in some localized infection somewhere in the body. The same is true of general toxemia. We might mention aside from dental reasons however many others such as otitis media, pyelitis, tubercular processes, intestinal disturbances, digestive chemical errors, anaphylactic disturbances, all of which may be due to some other local process or to a toxemia indirectly responsible or due to some other local infection. The toxic properties other than special bacterial toxin may be illustrated by examining cases of infection carriers such as persons known as diphtheria or meningitis carriers who suffer from the ill effects of the general toxemia, but nevertheless have the good fortune to have sufficient specific antibodies to ward off the specific bacterial poison.

There are so many angles to this question that it seems astonishing that so much stress should have been laid on dental infections in particular, when in reality if we consider these in particular they should, according to all scientific reasoning, be even less apt to be the etiologic factor of such secondary infections for which they are usually blamed. This is even more pronouncedly emphasized in small granulomas at the end of tooth roots after osteoclastic bone destruction when we find bacteria contained in thick fibrous granulation tissue surrounded for months and sometimes for years by their own offal with very little fresh nutrient material, almost entirely walled off. We also know nothing about the fluid contents as regards alkalinity, or the glycogen contents, data which are of the greatest importance if the virility of the organism is to be considered. We know nothing of the virulence of the organisms as to their power to traverse the thick envelopes of fibrous tissue. If it is a fact that these organisms are really pathogenic due to their specific toxin, and are constantly and slowly piercing the fibrous wall and are gaining access to the blood stream, would we not, by such a frequent and gradual infiltration, be justified in the belief that such an osmosis would tend to produce a high degree of tolerance, inasmuch as this gradual invasion of bacteria would act much like the very best sort of vaccine? It is readily seen there are a great many vital questions to be considered and to follow blindly new theories without investigation should not be the road for the scientifically developed mind to travel. There are many avenues of secondary infection which rarely are thought

of, for instance, such as the results of infection from eruptive fevers. If it is finally and definitely determined that the source of a morbid state lies in a certain focus of infection, then let it be our duty, and also that of the physician, to locate that source and not to ascribe it to a certain locality merely because the prevailing idea happens to ascribe most diseased conditions to a bacterial infection from a certain localized area at this particular time. In the young, tonsillar and middle ear infections surely play a great role in the general status of health, and there again the mere presence of organisms is in no wise proof that these situations are the sites of focal infection. We find in children frequently, and for that matter, also in adults, at times a large increase in the colon bacillus. Does that mean that the crypts in the colon are foci of infection? No, it is even desirable that these colon bacilli be present in their proper location. We know that middle ear infections may be present for a long time without causing the slightest local or constitutional trouble. Thus, streptococci and diphtheria bacilli, as well as a large number of other pathogenic organisms may be present for weeks and even years without causing any ill effects. These may become very active, however, as soon as another infection takes place in some other locality in the body even though this second infection may be due to an entirely different organism.

It would seem to the writer that in order to arrive at some sane avenue of approach to scientifically investigate the matter of oral infection and its consequences, we are obliged to view it from two widely different avenues of bacterial location. Namely, the one a filth condition about the teeth caused by unhygienic neglect even in the mouths that have received better care as a result of pyorrheal infection; in other words, an infectious area practically open, and from which the bacterial infection can easily spread to adjacent tissues, such as the tonsils, nasopharynx and alimentary tract, and could readily cause invasion of bacteria with consequent bacterial and albumose poisoning. And the other that condition found at times where bacteria are supposed to be in granulomatous tissue about the apices of devitalized teeth and this again, in the writer's opinion, should be definitely subdivided into two classes, namely, one showing a very slight area of radio-translucency which may simply demon-

strate osteoclastic bone destruction without any infection at all and the other a large area of that sort less distinct in outline which latter to the writer's mind would indicate a definitely spreading invasive infection of a pathogenic nature, and in this category the writer would also include such spreading infections as at times are seen on the x-ray pictures reaching into the antrum or into the inferior dental canal or mental foramen, these unquestionably being dangerous seats of infection and should rationally be looked upon as such. In this connection it may be well to emphasize the very great need of careful examination of x-ray pictures inasmuch as frequently the slightest distortion will lead a careless observer to mistake an error in the transmission of the light to believe he actually can see the root ends of such teeth penetrating the floor of the antrum or the inferior dental canal or mental foramen when such a picture is merely an artifact. As far as the writer's clinical observation goes, he is forced to admit that the greatest number of those spontaneous cures with which he has become acquainted were achieved by prophylactic treatment or extraction of such teeth as were enumerated in the first category and where secondary infection resulting from the local filth condition has followed, and where the infection has occurred on the basis of a toxemia due to albumose, but he has found that in other cases where only devitalized root apices with small radio translucent areas were supposed to be at fault, very little benefit followed either extraction or treatment. Where the larger radio translucent areas were found extraction and proper curretment should naturally always be followed by beneficial results which should justly be expected.

Considered from a bacteriologic or biologic viewpoint, the writer is at this time not at all convinced that these areas, commonly called infected (speaking of the smaller radio translucent areas), merely because they show radio-translucency are invariably infectious or that organisms of harmful influence are even present. Such radio translucency may be produced by many agencies other than bacteria. The dental treatment, the use of arsenical applications to a pulp, or the introduction of coagulating substances, as formaldehyde, might easily coagulate the lymph in the lymph spaces about the root ends and thereby produce such a translucency without meaning an infection at all (in fact, it has been shown by Eugene Tal-

bot, of Chicago, that these osteoclastic destructions may result from any kind of irritation in the treatment of the root canal of these teeth); further, the method by which the harmful bacterial invasion would necessarily have to take place from these granulomas is one which the writer is not ready to completely admit at this time.

True, we hear of many spontaneous cures from tooth extraction in many suspected cases, but the writer has seen also many instances in which teeth were removed without any constitutional benefit whatever following such procedure, or where the benefit was only of a temporary nature. If cases are presented where oral foci of infection are actually shown to be the cause of a secondary infection, or where all other sources of infection have been ruled out and only as a matter of last resort these suspected areas are to be removed by extraction of suspected teeth, then let it be understood that the mere removal of the teeth, even if followed by a slight scarification with a curet is not at all sufficient to produce the desired results. The operation in such instances must be concluded by vigorous surgical interference, such as properly cutting away all diseased bone and granulomatous tissue that may have been suspected to be present in the x-ray examination. This does by no means mean that such radical surgical procedure should be resorted to in the ordinary cases of extraction of teeth for dental reasons. Many of these so-called granulomas which have been the cause of removal of so many teeth can and have been, treated with the result that pictures taken at a later time showed these areas completely healed, or on the way of being completely healed. The ruthless unscientific extraction of teeth is entirely inadvisable in the estimation of the writer. When the treatment instead of the extraction is deemed the more advisable procedure, the fact that possibly other infections at a future period may again stimulate the supposedly cured alveolar condition into real activity, must always be kept in mind. This is a view justly held by men like Miller, Lusk and others. Therefore, x-ray pictures taken at one period showing a negative condition may very well at some future time show great bone destruction. Much more beneficial clinical results have been obtained in the cleaning up of superficial infections such as are found in unclean mouths, with filth and broken down decayed tooth roots which are due

to neglect or to pyorrhea, by simple prophylactic measures than are found as the result of extraction after diagnosis of probable root infection. I am reminded of a case under observation at the present time where a woman of about 35 years of age and suffering from arthritis was advised to undergo dental prophylactic treatment and a blood examination before treatment showed the following:

Erythrocytes	4,500,000
Leucocytes	11,500
Hemoglobin	0.9
Color Index	1
Polymorphonuclear	50%
Small Mononuclear	46%
Large Mononuclear	4%
Transitional	0%
Eosinophiles	2%
Basophiles	0%
Red Cells normal in shape and size.	
Stain well.	

and after treatment—

Erythrocytes	5,300,000
Leucocytes	6,400
Hemoglobin	100
Color Index	1
Polymorphonuclear	65%
Small Mononuclear	33%
Large Mononuclear	1%
Transitional	1%
Eosinophiles	0%

This woman, suffering pain from pyorrhea, had her teeth x-rayed and no less than *eight* were found with radio translucent areas, but notwithstanding the fact that she only received local ordinary prophylactic treatment, in other words, simply proper scientific cleaning of the denuded surfaces of the roots of the teeth and the gingival pyorrhea pockets and that *nothing* whatever up to that time at least had been done to overcome any possible infection from the so-called granulomas, her improvement upon examination as far as blood differential was concerned, you will readily see was striking; in fact, become almost normal and the writer fails to see that any other great improvement is to be expected following the subsequent treatment for extraction of the roots showing infection by granulomas. The rheumatic condition had also vastly improved. This is one of those cases where possibly the rheumatic condition may have been due to oral sepsis; not to any particular organism or to any apical infections, but to a general albumose poisoning. The organisms thus removed certainly were not of so infectious a nature as to localize as such in other surroundings, there to set up their virulent activities. The writer believes that in such cases a low grade poisoning of albumoses is established and that activity of antibody production is so hindered as to permit dileterious bodily influences to work havoc without any direct infection

spreading from the original sources of disease, and also that the presence of low grade organisms elsewhere might thereby be stimulated into greater activity. This toxemia being removed allows the bodily functions to return to normal and the disappearance of arthritic symptoms might readily be expected to follow.

A sequential disease should be traced to its proper source in a thoroughly scientific manner before pronouncing a final diagnosis and great reluctance should be expressed in the making of any prognosis.

It should also be determined as to which of the two infections were first present. The synchronous existence of two disturbances does in no way prove that one was dependent on the other; they may both or either one have been caused by a third bacterial toxin and may, therefore, be entirely independent occurrences. We should not lose sight of the fact in considering etiologic factors of disease and, in fact, disease itself that there are two factors always to be considered, namely, the agency producing disease and of equal importance the fight which the organism puts up to prevent disease and to return to a healthy state.

The peculiar influences connected with the later theories as expressed by Miller and Lusk regarding the interdependency and stimulating effect of one infection upon another regardless of the fact whether the bacteria in the two conditions be of the same variety or not is another matter which we must not lose sight of. We are all seeking the truth and that can only be obtained by true scientific study, entirely unbiased by prevailing opinion.

There is no question in the writer's mind that dental infection may at times be harmful, but diagnosis and prognosis should always be based on a much more scientific study than the mere casual examination of x-ray films. The constitutional condition is of paramount importance and if any doubt exists the patient's general health is always to be considered of prime importance. Never should we lose sight of the fact that the local diseased condition may have a greater or lesser bearing on the constitutional disturbances nor that the opposite, namely, that constitutional derangement may have great bearing on a disturbed oral local condition. Thus the dentist and medical men are forced to con-

sider carefully the relation between local and constitutional conditions and no empirical ruling can be laid down for either to follow. Again we cannot even base our opinions entirely on conditions found to be present for it surely will make a great difference in treatment if the cases be associated or not with faulty methods of living, lowering resistance by such habits as alcoholism or by faulty nutrition, lactation or senility or the use of drugs such as mercury or potassium iodide. In such cases oral filth conditions are certainly a great menace, so that everything having bearing on the case in hand should be carefully weighed and considered. Patients may have latent infections which are more prominently brought out by the co-existence of organisms of an entirely different bacterial (possibly oral) nature and the reverse. Latent, quiescent oral infections may be called into great activity by the presence of other bodily infections even of a mild nature and produced by entirely different bacteria. Other writers, particularly those who confine their work more or less to the study of tuberculosis, have frequently emphasized the fact that latent tuberculosis has become active and rapidly progressive after attacks of influenza (W. Duke), tonsillitis, measles, pneumonia or other (possibly dental) acute infections. Osler stated in his early writings that congenital syphilis or tuberculosis may be lighted up into activity by vaccination against smallpox. Duke cites many cases in which he has observed varied examples of latent and chronic infections becoming acute and severe after an attack of acute infections of an entirely different nature. Of course, these findings work both ways; it is often a question which one of the co-existing infections has the stimulating effect upon the other. Oral sepsis may have an important bearing on tuberculosis and the eradication of oral infection may be of material value in arresting the disease. Surely we all realize the interdependency often noted in simultaneous tonsillar and oral infections. The writer has seen cases of pyorrhea long under careful treatment without apparent improvement suddenly clear up after a tonsillectomy. There are many angles to this question; therefore, great care and study must accompany our efforts at diagnosis, prognosis or treatment and an open mind on this question is at present indicated and conservative thought is advisable.

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FEBRUARY, 1920

Editorial

THE MEDICAL PROFESSION AND THE CONSTITUTIONAL CONVENTION

What is the medical profession doing in order to safeguard its interests while the organic law of the State of Illinois is being written?

A few days ago a petition of the central health committee asking that the new constitution guarantee the right to do all kinds of healing was

presented to the convention and was referred to the committee on bill of rights.

We understand that representatives of all sorts of cults and isms in Springfield are constantly seeking to influence members to help bring about special concessions for cults to practice medicine not guaranteed them under present law.

It behooves the medical profession to get busy at once and be properly represented throughout the session in order that the health of the community may be properly safeguarded.

IS THE A. M. A. DOING ITS DUTY TO HELP SOLVE THE COMPULSORY HEALTH INSURANCE PROBLEM?

MICHIGAN STATE MEDICAL SOCIETY

COMMITTEE CIVIC AND INDUSTRIAL RELATIONS

OFFICE OF CHAIRMAN

706 Woodward Avenue, Detroit, Mich.

Health Insurance Committee,
Illinois State Medical Society,
Chicago, Illinois.

Gentlemen: In my judgment, the pamphlet issued by you, containing the articles by Drs. Ochsner, Whalen, Ballinger, Fairhall and M. L. Harris is one of the very best that has come to my table. The subject of compulsory health insurance is discussed so fairly, so dispassionately and so intelligently from so many angles that it cannot help be of interest to every reader.

Frankly, I am a novice in the study of compulsory medical insurance and in what for use of a better term might be called "Medical Politics." On taking the chairmanship, I wrote to the Council on Health and Public Instruction, A. M. A. Pamphlets by Drs. Lambert and Rubinow were sent me. I looked up the authorities and found that Dr. Rubinow, an avowed advocate of compulsory insurance for over fifteen years, had been appointed executive secretary of a committee which was to study the subject impartially—then I found that the president of the A. M. A., Dr. Lambert, was also an avowed apostle of compulsory insurance and was fighting his home society (N. Y.) in favor of the Association for Labor Legislation.

Do you wonder, that I am puzzled and that we find that many men think that the A. M. A. is behind the whole plan. The men in the vari-

ous states are spending time, money and effort, while the headquarters are where? Please understand that I am not writing in any spirit of criticism. I have no personal feeling in the matter. I have been given a duty to perform. As I see that duty it is to get information to the members of the fraternity in Michigan. If the A. M. A. send out Dr. Rubinow and Dr. Lambert's stuff as official, it is my duty to advise the members how biased or fair these authorities are.

Can you explain this apparent paradox to me? Will the incoming president represent the full brotherhood of the A. M. A. or is he to "use his own judgment." It makes the fight in every state so complicated and so hard, whereas if a united front could be presented for or against, it would be so much better.

I have written Dr. F. R. Green, secretary of the Council on Health and Public Instruction, as to the position taken by Dr. Rubinow and Dr. Lambert and on the character of the pamphlets being sent out by the council. I trust he will be able to enlighten me.

Dr. Stanton of Schenectady has taken up this question in no uncertain way and I feel that he should be backed up. We are entitled to know where the officials of the A. M. A. stand—we are entitled to criticize the character of the documents sent out bearing the official stamp. The Schenectady County Medical Society has done much good in bringing this point to issue.

I am very much obliged to you for your courtesy and I shall be very glad indeed to receive any suggestions and advice.

Sincerely yours,

GEORGE E. FROTHINGHAM, M.D.,
Chairman of the Committee.

ANOTHER PROTEST OF THE SAME SORT AS THE ABOVE.

DECEPTIVE HEALTH INSURANCE PROPAGANDA

To the Health Insurance Committee of the
Illinois State Medical Society.

Gentlemen: No problem affecting the medical profession at the present time is of more vital importance than the subject of compulsory health insurance. It surely should be one of the functions of the American Medical Association to investigate in a scientifically impartial manner all

phases of this subject as it relates both to the public and to the medical profession, and to distribute this impartially ascertained knowledge to at least the members of the American Medical Association.

The Committee on Public Information of the Medical Society of the County of Schenectady on Social Insurance being issued by the Council on Health and Public Instruction of the American Medical Association. In the opinion of our committee these publications are more in the nature of propaganda for compulsory health insurance than scientific studies of the subject. In fact, our secretary could compile most of the statements presented in these pamphlets from the propaganda issued by the organization styling itself the American Association for Labor Legislation. As scientific documents we are forced to consider them as far beneath the dignity of a great organization like the American Medical Association.

Several of the pamphlets issued by the council are in the name of Dr. I. M. Rubinow, formerly executive secretary of the Social Insurance Committee of the American Medical Association. Dr. Rubinow's past and present activities have been such as to lead us to question as to whether he was, either by training, temperament or volition, qualified to act as an impartial investigator for any committee supposed to be studying the subject of compulsory health insurance. In our opinion, his appointment was, of itself, little short of a breach of good faith on the part of whoever was responsible.

Bulletin V, we believe, is a typical example of the pamphlets we refer to. This pamphlet represents the secretary's very best efforts for the "cause which he has the good fortune to represent" (page 1, line 7) and it is surely propaganda for the "25,000,000" (page 23) when he feels called upon to reach, but when did the American Medical Association decide to propagandize for the "cause" of compulsory health insurance? As scientific documents these pamphlets fail to even mention the fact that there may be some very real reason why, aside from the poverty of insurable risks, sickness insurance has always remained a weak sister in the insurance family. Also there are some real reasons why the great majority of the medical profession of this country are convinced that compulsory health insurance is a

social "gold brick" of a very dangerous type. If the researches of this committee have not yet led to the discovery of these shortcomings it might be well for them to investigate this phase of the question.

Dr. Rubinow is not at present serving with the committee, but the report for 1919 shows no evidence of improvement.

From time to time our committee will call your attention more in detail to the character of those reports. In the meantime we ask you to obtain and read these reports critically, not only for the information and lack of information they contain, but with the idea of determining their character as supposedly impartial studies of and statements concerning the subject of compulsory health insurance.

Very sincerely,

Chairman of Committee on Public Information
Schenectady County Medical Society.

Sign with Committee on Social or Health Insurance of the Illinois State Medical Society.

ED. H. OCHSNER,	JOSEPH FAIRHALL,
GEORGE APFELBACH,	J. R. BALLINGER,
C. A. HERCULES,	E. W. FIEGENBAUM,
H. F. BRUNING,	W. D. CHAPMAN.

NO LEGAL RIGHT TO EXAMINE VENEREAL SUSPECTS

In connection with the detention of persons suspected of having venereal disease an opinion of the Supreme Court of Iowa is of the utmost importance:

One Wragg was arrested charged with lewdness. Bail was fixed, subject, however, to the order of the local board of health, which board subsequently issued an order detaining the accused until it could be ascertained whether he was afflicted with a venereal disease. Wragg then sued out a writ of habeas corpus for his release. The stipulated facts showed that petitioner would be compelled to permit an expert to extract approximately 5 cubic centimeters of blood from petitioner's veins to determine whether he was afflicted with syphilis, such test being known as the "Wassermann reaction," and that the petitioner would be further restrained if the expert should report a positive reaction.

The Supreme Court of Iowa, in an opinion by Judge Weaver in *Wragg v. Griffin* (170 Northwestern Reporter, 400), after determining that neither under the statute law nor under the rules of the board of health could a person merely suspected of having a venereal disease be compelled to submit to such an examination, says: "Even when charged with the

gravest of crimes, one cannot be compelled to give evidence against himself, nor can the state compel him to submit to a medical or surgical examination, the result of which may tend to convict him of a public offense; and, if there be any good reason why the same objections are not available in a proceeding which may subject him to ignominious restraint and public ostracism, it is at least a safe and salutary proposition to hold that, before the courts will uphold such an exercise of power, it must be authorized by a clear and definite expression of the legislative will."

The writ was therefore sustained.

IS THE NURSE JEOPARDIZING THE PUBLIC HEALTH SERVICE?

*Are School Nurses Not Practicing Medicine
Within the Meaning of the Law?*

A conviction quite universally prevails that the increasing tendency to over-emphasize the importance of the public health nurse in public health service is rapidly precipitating a situation which not only will prove intolerable but will be the means of giving public health work a serious setback.

Between the women's clubs, the Red Cross, child welfare and other extra-governmental health agencies, as well as some well-meaning but shortsighted public health authorities, the nurses have been lauded and cajoled to such an extent that they not only feel that they are an indispensable factor in public health service, but that they are really the whole thing and that the service would be much better off if the physicians would withdraw and leave the field to them.

In witness of this statement note the attitude of certain nurses who are engaged in public school inspection work. In some instances they stoutly refuse to admit the necessity of a "supplementary" medical service, maintaining that they are fully as competent, if not more so, than physicians to make diagnosis, not only of communicable affections but also of physical defects. In this connection the Health Department program issued by the nursing service of the Springfield schools, published below, (which is typical of many we have seen) is confirmatory.

We hold that school medical inspection service maintained only with a force of nurses, no matter how competent, is less than one-half efficient. To maintain such a service without physicians is about as absurd as trying to run a hospital without medical attendance. It implies, further-

more, that the nurse is extending an authority of her license if not actually violating the law regulating the practice of medicine.

As we see it, the one thing which has done more than all else to emphasize the importance of the nurse is the fact that she is willing to give her whole time to the service and does so at a lesser cost to the community than the services of a physician could be obtained.

In this connection the important thing to remember is (a) to emphasize the inefficiency of any public health service dependent wholly or chiefly upon a nursing force; (b) urge less clamor for public health nurses and more attention to the demand for a full time medical health officer service; (c) the closest co-ordination of all public health nursing services with the constituted health authorities and the strictest supervision of such service by such authorities.

No extra-governmental body organized for engaging in public health work, which is the rightful function of State or municipality, should be permitted to engage in such work excepting and under the supervision of the only legally constituted authorities. There should be a law to this effect.

Again, it may be emphasized that the calling off of so large a body of nurses into the public health field not only deprives the hospitals and the sick in homes of necessary nursing attendance but also tends to increase the cost of nursing service to a point that is prohibitive excepting to the rich. Salaries paid to nurses in the Red Cross public nursing exceeds the income which any nurse steadily employed in nursing the sick can now command. The Red Cross is also disrupting municipal public health nursing service by reason of the higher salaries it is paying nurses in its service.

The tendency of nurses to unionize has lately become apparent in Chicago. Instead of affiliating with the professional group, we understand the matter is still under discussion whether they shall affiliate with the Federation of Labor or not. It is argued that they have been forced to this through the uncertainty of their employment occasioned by the fight between the factions in the Board of Education and the failure of the Chicago City Council to allow them adequate compensation.

THE HEALTH DEPARTMENT OF THE SPRINGFIELD PUBLIC SCHOOLS

That the nurse be carefully chosen, active, cheerful, tactful and especially adept in appealing to school children is important. That she understands the laws governing contagious and infectious cases; and that she be well prepared to judge the symptoms of contagion and the physical defects most obvious, is equally essential; and last, but not least, she must understand and be able to fit into this greatest of organizations, the American Public School.

Each nurse is given a definite program of schools, and the ideal condition is to make as few changes in her districts as possible. This gives each nurse an opportunity to know her children and to follow up her cases where definite corrective work is needed. It gives her the added opportunity of getting into the homes and of coming into close touch with the mothers.

The work of the school nurse has three main objects:

1. To discover contagious cases and exclude them from school, making every effort to find the source of infection, thereby protecting the school and community.

2. To discover physical defects that tend to impair the health and future happiness of the child.

3. To advise both children and parents of the necessity of the correction of physical defects during childhood.

In order to discover contagion in a school the nurse makes a routine or general inspection of the children. She proceeds in the following manner:

Enters schoolroom and announces to teacher her object. Instructs children to roll up sleeves and unfasten neck of clothing.

Inspects throats, notes hands for peeling, neck and arms for appearance of rash. In event she finds case suspicious of contagion, child sent from room to office where nurse makes careful investigation and final decision. If a child is suspected of contagion, he is excluded from school and Board of Health notified at once. If he seems ill, but shows no symptoms of contagion, he is sent home to return when he is well.

NATIONAL ANAESTHESIA RESEARCH SOCIETY.

Announcement is made of the launching of the National Anæsthesia Research Society, with the avowed purpose of collecting data and prosecuting original research in this field of medicine. The objects of the Society as set forth in the constitution are:

To promote the science of anæsthesia and to enable its members, after first having obtained the approval of the Society, to submit without prejudice to the dental and medical professions, any views, findings, or ac-

complishments they have attained; to obtain from all available sources such information as is now extant concerning any material, liquid or gas, known to have anæsthetic properties; to arrange, in co-operation with dental, medical and anæsthesia associations for the preparation and delivery of suitable interesting and educational papers on the general subject, or relative to some particular anæsthetic; to use influence to prevent the publication or circulation of any false or unauthentic statements concerning any and all conditions, symptoms, or phenomena prevailing during or after anæsthesia by any anæsthetic, and to prepare and distribute on request, forms on which such information can be tabulated with uniformity; to distribute by pamphlet or publication, as its funds may permit, and its governing powers authorize, such reliable data as it may collect or obtain through its members or others interested in the subject of anæsthesia, for use by the medical and dental professions; to co-operate with state authorities and other bodies in the preparation of suitable legislation to safeguard those to whom anæsthetics are administered as well as those called upon to administer them; to use its influence in every way and to give its aid toward the advancement of the Science of Anæsthesia.

The Research Committee which will have supervision of original work and the editing of material designed for the profession and professional press, is headed by F. H. McMeach, A. M., M. D., of Avon Lake, Ohio, editor of the Quarterly Supplement of the American Year Book of Anæsthesia and Analgesia. W. I. Jones, D.D.S., president of the Inter-State Anæsthetists' Association, will have an active part in the committee's work. Representative anæsthetists of the country, who have distinguished themselves by research and progress in their field, are being invited to join the committee.

The Society has been endowed with limited funds which will permit it to demonstrate that there is a field of usefulness for it.

REGULATIONS ON PRESCRIBING OF LIQUOR

NEW INTERNAL REVENUE REGULATIONS GOVERNING
FILLING OF WINE AND WHISKEY PRESCRIPTIONS,
LIMITS THEM TO THOSE WHO ARE STRICKEN
SICK AND CAN PROVE IT

[PUBLIC—No. 66—66TH CONGRESS.]

[H. R. 6810.]

An Act To prohibit intoxicating beverages, and to regulate the manufacture, production, use and sale of high-proof spirits for other than beverage purposes, and to insure an ample supply of alcohol and promote

its use in scientific research and in the development of fuel, dye, and other lawful industries.

Daniel C. Roper,
Commissioner of Internal Revenue.

STRICT LIMITATION AS TO PRESCRIPTIONS

Physicians may prescribe wines and liquors, for internal use, or alcohol, for external use, but in every such case each prescription shall be in duplicate, and both copies be signed in the physician's handwriting.

No one but a physician holding a permit to prescribe liquor shall issue any prescription for liquor. And no physician shall prescribe liquor unless after careful physical examination of the person for whose use such prescription is sought, or if such examination is found impracticable, then upon the best information obtainable, he in good faith believes that the use of such liquor as a medicine by such person is necessary and will afford relief to him from some known ailment. Not more than a pint of spirituous liquor to be taken internally shall be prescribed for use by the same person within any period of ten days and no prescription shall be filled more than once. Any pharmacist filling a prescription shall at the time indorse upon it over his own signature the word "canceled," together with the date when the liquor was delivered, and then make the same a part of the record that he is required to keep as herein provided.

Every physician who issues a prescription for liquor shall keep a record, alphabetically arranged in a book prescribed by the commissioner, which shall show the date of issue, amount prescribed, to whom issued, the purpose or ailment for which it is to be used and directions for use, stating the amount and frequency of the dose.

The commissioner shall cause to be printed blanks for the prescriptions herein required, and he shall furnish the same, free of cost, to physicians holding permits to prescribe. The prescription blanks shall be printed in book form and shall be numbered consecutively from one to one hundred, and each book shall be given a number, and the stubs in each book shall carry the same numbers and be copies of the prescriptions. The books containing such stubs shall be returned to the commissioner when the prescription blanks have been used, or sooner, if directed by the commissioner. All unused, mutilated, or defaced blanks shall be returned with the book. No physician shall prescribe and no pharmacist shall fill any prescription for liquor except on blanks so provided, except in cases of emergency, in which event a record and report shall be made and kept as in other cases.

Physicians may also obtain permits entitling them to procure not more than six quarts of distilled spirits, wines, or certain alcoholic preparations, during any calendar year, for administration to their patients in emergency cases, where delay in procuring liquor on a prescription through a pharmacist might have serious consequence to the patient.

HOSPITALS HAVE AUTHORITY

Provision also is made in regulations for issuing permits to hospitals and sanatoriums to enable them

to procure intoxicating liquor to be administered for medicinal purposes to patients at such institutions, and also for issuing permits to manufacturing, industrial, and other establishments maintaining first aid stations, authorizing them to procure such liquor for administration to their employes for medicinal purposes in emergency cases.

NOTE: That up to the time of going to press these special prescription blanks had not been received at the office of the Internal Revenue Department in Chicago, although they have been expecting them every day for some time. Until they arrive the Doctor is permitted to use his own prescription blanks making the prescription out in duplicate.

ARISTOCRACY IN MEDICINE

Wm. J. Mayo, in his presidential address at the annual meeting of the American College of Surgeons at New York City last October, sounded a warning concerning the future status of surgery, that may or may not interest the medical profession as a whole. In discussing the subject of medical education and especially the educational requirements for future admission to fellowship in the College of Surgeons—graduation from a reputable medical college, hospital training, state license, and special training (three years) in a special field of surgery—Dr. Mayo asks the following question: "Will not this have a tendency to make the surgeon a member of an aristocracy to the ranks of which the sons of rich men will be the only ones who will have easy entrance?"

The boy entering the grade school at seven years of age may complete his medical education, with a year of hospital internship, at the age of twenty-six. And three years of special training added to this will make him twenty-nine. Eight years of his majority must be spent in preparation for his life work in order to meet the standard of requirements for recognition by the College of Surgeons. Eight years of the average man's time is no small investment, but add to this the fees and cost of maintenance for eight years and few men will see in surgery, even with most flattering reports of its financial possibilities, a very sure or safe investment. It does seem that only the sons of rich men will "have easy entrance" into this most desirable fold.

The same conditions may as readily be applied to medicine even without the additional three years of special preparation. The investment of time and money now required of the student in medicine is not justified by the average income of general practitioners. Many of those who are attracted by other things in medicine than its financial possibilities are seeking the short cuts, are associating themselves with the various cults or substitutes for real physicians. The process of raising the educational requirement for the practice of medicine has had a selective action upon the prospective candidates for medical degrees.

We have been creating an aristocracy in medicine for some time past. Only those who are induced by love of scientific pursuit or those who have ample

financial backing find any attraction in the study of medicine now.

But it is not alone the educational requirement that is making an aristocracy of medicine, it is also the gradually increasing requirements for efficient practice—the equipment and the technical assistants that are now regarded as essential. No man, who has not an unusually large and lucrative practice or an independent income, can afford to equip his office for a thorough and complete examination. The average practitioner is forced to adopt the most primitive form of group practice. He sends his patient to the roentgenologist, the dentist, the oculist, the rhinologist, the neurologist, and sends his specimens to the nearest laboratory. Out of such a system, however, more intimate group formations will evolve with complete equipment, specialists, and technical assistants for each group.

The members of such a group and the members of the staffs of hospitals where such facilities are available, are men of middle rank, for the true medical aristocrat is he who can afford and does possess all of these facilities for himself. He occupies the position to which we all aspire and which is accorded the greatest respect by the people.

In every group there must be one who leads and directs—finally dictates and then his associates become only helpers or assistants. So that the group will resolve itself into a leader and his followers and ultimately into the proprietor and his assistants and dependents.—J. K. M. S., Jan. 1920.

THE BLOOD PRESSURE VOGUE

BY D. NATHAN, M. D.,
Captain, Canadian Army Medical Corps
NORRISTOWN, PA.

From the ponderous apparatus of Ludwig or Er-langer to the spring instruments of watch charm dimensions, from the seclusion of the physiological laboratories to the kit bag of the local physician, blood pressure machines have evolved and the finished product is now as much in evidence as are the reagents for making the simplest urinalysis, in the doctor's office.

That blood pressure is an aid in diagnosis is common ground, that high blood pressure has the significance given it by the general practitioner is debatable. Even if the instruments as yet perfected were infallible as a guide to exact blood pressure, there are still several factors to be reckoned with, e. g., local arterial conditions, local increased peripheral resistance, where the reading would not measure anything but the pressure of the blood stream passing through the vessel occluded by the cuff, besides a correct interpretation of the pathological condition responsible.

Again, the blood pressure taken from an artery direct differs from that taken with a cuff. This latter method, however, can be safely used as bearing upon actual pressure of the blood and when the figure is high or low we can be satisfied that the blood pressure is high or low. In the heart hospitals in England less

account was taken of the blood pressure than of other clinical factors, and with as good results, I think. The forms later adopted by the Canadian Medical Board required taking the blood pressure when the pulse exceeded 90, and of course the faster the heart beats, other factors upon which blood pressure depends remaining the same, the blood pressure will rise correspondingly. I can say this, that in the examination of thousands of men, many of whom had spent most of four years in the trenches, high blood pressure was of little importance. Among these were cases of disordered action of the heart with blood pressure varying in many cases above normal. Few men complained, many cases being discovered by the medical officer examining. Fortunately the battalion medical officer did not carry a sphygmomanometer which he could flash upon every Tommy on sick parade, else we would have had the high blood pressure neurosis to cope with.

It is unnecessary for me to go into the significance of variations from what has been accepted as a standard of normal blood pressure. I will say this, however, that very low blood pressure is always more dangerous than very high blood pressure, the former being evident without the use of a sphygmomanometer and suggesting treatment with better results. Of course it is possible to reduce high blood pressure temporarily, whether it is the result of chronic nephritis or of the idiopathic variety. The electrical manufacturers know and tell the physician all about this high blood pressure. The drug manufacturers make pills for the purpose. They also know how to cure it. If they did not know one might use some depressant in poisonous doses, say aconite, or do as I have seen done in enteric fever in order to reduce temperature, paint the patient with guaiacol and then cover the part with oil silk. Fall of temperature and blood pressure were concomitant with dissolution.

Blood pressure is something with which we are all afflicted; having no blood pressure, like an acid condition of the tissues, is incompatible with life. The object of this article is to obviate if possible the further development of a class of psychasthenics with obsessions of high blood pressure. I have had several of these latter and the mental condition induced by their concentration on the state of their blood pressure made them, even to a professional consoler, hard cases to handle. The doctor who diagnoses aloud the disease high blood pressure can rest assured that that patient will soon bestow his patronage upon some other physician, charlatan, or other of their ilk. —N. Y. M. J., 617 West Main Street.

FIGURING THE DOCTOR'S INCOME TAX

BUREAU OF INTERNAL REVENUE,
WASHINGTON, D. C.

Professional men are asking just now how they should figure Income Tax. The following article is prepared to meet this demand for information.

RETURNS FOR 1919

The present Income Tax law requires that returns for 1919 be filed on or before March 15th, 1920, at the office of the Collector of Internal Revenue for the district in which the taxpayer lives. At least one-quarter of the tax due must accompany the return.

An unmarried person must file a return if his or her net income was \$1,000 or over; and a married person living with wife (or husband) must file if their joint net income was \$2,000, or over. A widow or widower, or a married person living apart from wife (or husband) is classed as a single person.

The requirement to file a Federal Income Tax return is not contingent upon there being a tax due.

Form 1040A is used for net income of not more than \$5,000. Form 1040 for net income over \$5,000. Instructions and a working sheet accompany each return form.

Every firm of professional men operating as a corporation must make an annual return of net income on Form 1120; if operating as a partnership, a return on Form 1065 must be filed.

Gross Income. An individual's gross income from a profession includes all compensation for his services.

Where services are paid for with something other than money, the fair market value of the thing taken in payment is the amount to be included as income. If the services were rendered at a stipulated price, in the absence of evidence to the contrary such price will be presumed to be the fair value of the compensation received.

In the case of a salary received, this should be shown separately, in Block B, of the return. Many professional men and women—lawyers, medical examiners, teachers, accountants, etc.—are officers or employees of a State, or a political subdivision of a State, such as city, town or county. Their salaries or wages as such officers or employees is exempt from the Federal Income Tax. The exemption also applies to fees received by notaries' public commissioned by States, also the commissions of receivers appointed by State courts.

As to fees for services to clients, patients, etc., these should be included in the gross income for the taxable year in which received, unless they are included when they accrue to him in accordance with an approved method of accounting followed by him.

Cash Basis. A professional man may make his return on the basis of cash intake and actual expenditures for the year. It should be noted here that a taxpayer is deemed to have received income which has been credited to or set apart for him without restriction.

Accrual Basis. A more exact and equitable method of figuring net income is on the "accrual basis." This means a computation on the basis of income earned and expenses incurred, whether paid or not, that actually pertain to the taxable year, excluding income earned and expenses incurred in previous or succeeding years. A professional man who keeps books of

account should make returns by this method, if his accounting method is one generally employed, and shows a correct net income.

Deductions. A professional man may claim as deductions the cost of supplies used by him in the practice of his profession, expenses paid in the operation and repair of an automobile used in making professional calls, dues to professional societies and subscriptions to professional journals, the rent paid for office rooms, the expense of the fuel, light, water, telephone, etc., used in such offices, and the hire of office assistants. Amounts expended for books, furniture and professional instruments and equipment of a permanent character are not allowable as deductions.

In the deductions from gross income, the law specifically bars personal living or family expenses.

In the case of a professional man who has a regular place of business and who rents a residence, but incidentally receives there clients, patients or callers in connection with his professional work, no part of the rent at his home is deductible. If, however, he uses part of the house for his office, such portion of the rent as is properly attributable to such office is deductible.

Bad Debts. The uncollectible bills of professional men, particularly doctors, dentists and lawyers, have a very important bearing on the net earnings for each year. The principal point in connection with such accounts made in Income Tax procedure is that there can be no allowance for such bad debts in returns figured on the "cash basis." That is, a person who has been making his annual returns on the basis of cash received and actual cash expenditures each year has never shown as income his accounts with patients or clients, and is, therefore, not entitled to take them out of income.

On the other hand, a person who annually figured his gross income on the "accrual basis," that is, included his cash receipts and charges against patients and clients for all of his services performed during each year, is entitled to a deduction for "bad debts" covering such accounts as he ascertained during the year were uncollectible and charged off on his books.

An account merely written down or a debt known to be worthless prior to the beginning of the taxable year is not a proper item for deduction.

Wear and Tear.—A reasonable allowance for the wear and tear and obsolescence of such instruments and equipment, etc., is allowed. The proper allowance is that amount which should be set aside for the taxable year in accordance with a consistent plan by which the total of such amounts for the useful life of the property will suffice, with the salvage or scrap value, at the end of such useful life, to provide in place of the property its cost or its value as of March 1, 1913, if acquired by the taxpayer before that date.

Obsolescence.—When through some new invention or radical change in methods, or similar circumstance the usefulness in his profession of some or all of his instruments or other equipment is suddenly terminated,

so that he discards such assets permanently from use, he may claim as a loss in that year the difference between the cost (reduced by reasonable adjustment for wear and tear, which it has undergone; and its junk or salvage value. If the apparatus was owned prior to March 1, 1913, its fair market value on that date should be considered, instead of its cost, in figuring obsolescence. This deduction is allowed by law, but the taxpayer must be able to substantiate any claim made on this basis.

THE TOXICITY OF WOOD ALCOHOL.

Acute Poisoning. Symptoms are similar to those of poisoning from ethyl alcohol, only they come on more slowly and are more prolonged. For instance: coma, caused by methyl alcohol, commonly lasts two to four days, while that resulting from excess of ethyl alcohol rarely lasts over six hours. Methyl alcohol produces marked fall of body temperature, and marked changes in the alimentary tract with intestinal hemorrhages, and vomiting of blood is frequent. Convulsions may occur and last for a day or two, ending in loss of sensation and most reflex movements. Convulsive movements of the eye are often very noticeable. Very few of the cases of acute intoxication recover and in those that do, blindness is a common result, owing to degenerative changes in the retina.

Chronic Poisoning. While a single dose of methyl alcohol is no more toxic to one of the lower animals than an equal quantity of ethyl alcohol, small doses of the former, given every other day, are fatal in all cases within a few weeks. This, notwithstanding the fact that doses of ethyl, or isobutyl, or amyl (fusil oil) alcohol, in doses sufficient to cause intoxication, can be given to such animals for months without harmful results. In animals dead from chronic methyl alcohol poisoning extensive fatty change of the liver has been uniformly found.

The idea has been prevalent in some quarters that methyl alcohol owes its chief poisonous effect to the action of impurities contained. That this is an error, has been proved by many authorities. Hunt—Johns Hopkins Hospital Bulletin, August, 1902, says in reference to such impurities: "While the toxicity of the preparation may be considerably increased by them, methyl alcohol is still the chief toxic agent."

To test the effects of methyl alcohol upon the eye, Birch-Hirschfeld experimented upon monkeys with the following results:

Pure methyl alcohol, diluted with several times its bulk of water, was given to three monkeys, in doses of from three to seven cubic centimeters, every one or two days. One monkey received 28 c.c. of methyl alcohol over a period of 8 days; one 79 c.c. over a period of 15 days; the other 56 c.c. over a period of 11 days. The animals were killed when it was evident that death was approaching (at the end of the periods given) and their eyes studied microscopically. Two of the monkeys had marked degenerative changes in the retina and one was totally blind. Similar changes were found

in the eyes of three dogs, poisoned by methyl alcohol, although no disturbances of vision could be detected during life.

An explanation of the toxic action of methyl alcohol may be deduced from the fact that the urine of men and animals, for days after its administration, contains considerable quantities of formic acid, a markedly poisonous substance. This acid results from the incomplete oxidation of methyl alcohol, and is excreted very slowly from the animal body, thus readily producing cumulative effects and chronic disease.

In the cases of the six deaths from acute poisoning by methyl alcohol in whiskey taken in bar rooms of this city, previously alluded to, all were seized with violent symptoms soon after taking the adulterated drink. These were violent abdominal pains, incessant vomiting, and extreme weakness. Three of the patients complained of blindness, and three came to the hospital in coma.

The main symptom of chronic methyl alcohol poisoning is disturbance of vision and blindness.

Treatment: The treatment of acute methyl alcohol poisoning is thus given by Gettler and St. George. (*J. A. M. A.*, January 19, 1918) :

"The treatment, to be at all efficacious, must be promptly instituted, and consists essentially of ridding the body of the poison, and supportive measures. . . . For a considerable period of time, the alcohol excreted and re-excreted, unchanged into the stomach and intestine, and it is, therefore, important that early and frequent gastric and rectal lavage be carried out. . . . Intravenous saline or sodium bicarbonate infusions and phlebotomy and transfusions, if the latter can be had quickly, should be administered. In addition, warmth and strong stimulation with strychnin, digitalis, caffeine, camphor, epinephrin and oxygen must be given.

Correspondence

MIDWIFE PRACTICE—AN ANACHRONISM.

To the Editor: Dr. Clara P. Seippel, in commenting upon Dr. Holmes' article which appeared in the January number of the *JOURNAL*, says: Not only the medical profession, but every intelligent layman will agree with him; his conclusion should be endorsed by every organization working for the public welfare.

About fifteen thousand women die annually from diseases incident to pregnancy and confinement, we are told in a bulletin on Maternal Mortality written by Dr. Grace L. Meigs and issued by the Children's Bureau. More than half of these fatalities result from conditions which are mostly recognizable during gestation—frequently in the early months; therefore, a very large per-

centage of such deaths are avoidable. The infant mortality is practically one hundred per cent; so that if 8,000 mothers die we can assume that 16,000 lives are lost annually in this way, of which—we have no hesitancy in saying—12,000 at least might have been spared had the mother had the scientific care and supervision which are now taught in all medical colleges.

The midwife is not conversant with the early symptoms of toxemia; she does not recognize genital infections, placenta prævia, or pelvic obstructions and deformities. However early she may be engaged for a case she can only preside at the crucial moment and that is all that is expected of her.

The other 7,000 deaths follow puerperal septicemia. In hospital practice, according to DeLee, Williams and other authorities, the deaths from this cause have fallen much below one per cent. We may justifiably conclude therefore, that the majority of these women are confined in their homes. It would be interesting to ascertain how many of them are delivered by physicians and what number by midwives. There are, of course, many more cases of infection—patients who recover after several months (sometimes never completely)—and though there is no record of them, they must not be lost sight of in the reckoning.

Approximately 2,500,000 babies are added to our population each year. Perhaps fully half of them are born at home and a million and a quarter mothers, fifty per cent., were probably attended by midwives. We know that many an infant dies in the first few weeks of life because of inattention to the mother's health before its birth; and when such neglect results in her inability to nurse her little one the infant mortality rate takes a big leap. Neither must we forget the army of handicapped bottle-fed babies who survive.

Let us, for the moment, entirely ignore the question of the midwife's ability or inability to conduct a woman safely through the puerperium. The mortality of both women and children due to diseases occurring during pregnancy is so great and the morbidity so serious, that no one should be permitted to assume the rôle of obstetrician who cannot likewise assume the full responsibility for the woman's health and life and those of her child from the time the condition is diagnosed until the event is happily completed.

That it is an economic question of first rank none can dispute. That the care of the expectant mother should become a function of the government we are gradually coming to see.

It was with great pleasure that we read a short time ago the draft of a plank which the leading women's organizations of the country will ask every presidential candidate to put into his platform, the first item of which asks for the granting of federal aid to the states for the adequate care and supervision of the mother before, during and after confinement, the instruction of the hygiene of maternity, infancy, etc.; in short, it endorses the Sheppard Bill.

It is quite the fashion, as we all know, for the leaders in every big public movement to enlist the interest of the women's clubs; they are always told that the particular cause is a woman's work—whether it is or not. But if ever there was a task that was a woman's task, the Prevention of Maternal Mortality is that task. More women can be reached through the women's organizations of this country than in any other way and more quickly than by any other means. Legislation and appropriations may not come for several years, but a public educational campaign can be initiated at once.

We see what public lectures have done to tuberculosis, alcohol and venereal diseases. The venereal disease quack practiced for many years before the laws he violated were enforced; the laity became educated and the danger of the advertising specialist became known, so that his business was no longer tolerated.

The enforcement of the medical practice act would undoubtedly in time eliminate the midwife. Dr. Holmes has pointed out the difficulties surrounding the procedure, to say nothing of the time and money it would consume. Arousing public sentiment will make the law effective. An educational campaign is the most feasible immediate measure. It will not only educate those who employ midwives but thousands of other young prospective and potential mothers. All women will come to learn that it is early, scientific supervision that has robbed maternity of its terrors to a very large degree, and that carries both mother and child safely through in a high percentage of cases.

When we contemplate the shocking fact that in more than twelve years (during which time medi-

cal science and teaching have made great advances in the field of obstetrics) the maternal mortality from practically preventable causes has shown no decrease in this country, we should be stirred into masterful activity.

Public Health

THE INFLUENZA EPIDEMIC IN ILLINOIS.

In spite of the optimistic belief on the part of some writers and health authorities that influenza would not recur in epidemic form during the present winter, the disease is now prevalent throughout the northern portion of Illinois and is spreading rapidly through the central portion toward the southern end of the State. As was the case in the epidemic of the winter of 1918-19, the disease made its first serious invasion in the cities along the Lake Shore, north of Chicago, the first cases reported as during the last epidemic being at the Great Lakes Naval Training Station near Waukegan. The Great Lakes Naval Training Station and Camp Grant have suffered severely during the present outbreak, and there are thousands of cases reported in the city of Chicago.

The disease this year appears to be of a very mild type compared with that of last year, with less tendency to complicating pneumonia, less liability to heart disturbance with very brief duration of the fibril period and rapid convalescence. On account of this mild type, a large number of cases are undetected and thousands unreported, so that it appears inevitable that the epidemic will spread throughout the entire State and throughout the entire nation. Studies made under the direction of Dr. E. O. Jordan of the University of Chicago at the Great Lakes Naval Training Station indicate that there is a different bacterial flora in the present epidemic, the Pfeiffer bacillus being more frequently noted than during the epidemic of 1918.

The first reported cases of influenza were received by the Division of Communicable Diseases about January 1st and up to January 24th there had been 17,694 cases in the State outside the city of Chicago. The greatest numbers of cases during the present outbreak were reported about the 14th and 15th of January.

To meet the emergencies which may arise in connection with the influenza epidemic, a very competent medical organization has been created, affording the State Department of Public Health much closer contact with the various sections of the State than was attained during the epidemic of last year. Under authorization of the Surgeon General, the Director of Public Health has appointed one physician in each county to serve as Assistant Collaborating Epidemiologist for the United States Public Health Service. These appointments were tendered by wire and although the service may be arduous in the event of serious epidemic and carries with it a monetary compensation of but \$1 per year, acceptances were received within a period of twenty-four hours.

The Assistant Collaborating Epidemiologists are supposed to keep in close touch with the influenza situation in their respective counties and to keep the State Department of Public Health advised of all developments. A communication has been forwarded to all of the health officers in each county instructing them to keep in close touch with the Assistant Epidemiologists so that all of the reports from the county will come to the State Department of Public Health through one channel.

In addition to the Assistant Collaborating Epidemiologists there has been established an Influenza Emergency Medical Corps made up of 125 physicians who have tendered their services in the event of an emergency. The names of these physicians have been transmitted to the United States Public Health Service at Washington and in the event of the local medical personnel proving insufficient to meet an emergency, one or more of these physicians will be delegated for service in such communities in the capacity of Acting Assistant Surgeon of the United States Public Health Service, and receiving compensation on the basis of \$200 per month with traveling expenses and an allowance of \$4 per diem for subsistence.

If conditions demand, the members of the State and county collaborating health service of the State Department of Public Health will be called upon to meet emergencies, the members of this service having been selected by members of the various county medical societies to represent the State Department of Public Health under conditions when members of the regular staff are unavailable. When not actually engaged in public health work the members of this service are paid by the State on a per diem basis with traveling expenses.

To further meet emergency needs the American Red Cross has made preparations to furnish nurses for community work and also to supply hospital equipment if it be required for emergency hospitals.

That a more intelligent idea of the extent of the epidemic throughout the nation may be obtained, Dr. C. St. Clair Drake, Director of Public Health of Illinois, who is also executive secretary of the Conference of State and Provincial Health Officials, has been delegated to maintain a nationwide clearing house. The state health officials of all states have been requested to furnish Dr. Drake with weekly reports of the progress of the epidemic within their jurisdictions and to communicate any unusual conditions by wire, and this material is utilized for the preparation of a weekly report which is sent to health officials throughout the nation. The first of these reports was issued under date of January 21st and dealt almost altogether with the influenza situation in Illinois.

With the advent of this new epidemic the work of the national committee on respiratory diseases in the testing out of influenza and pneumonia vaccine for prophylactic use has been pushed forward as rapidly as possible. Dr. Jordan, who represents the Committee in Illinois working in connection with the State Department of Public Welfare and the State Department

of Public Health, has vaccinated one-half the inmates of several of the large State institutions. While it is hoped that by rigid exclusion of visitors, already ordered, influenza will not invade these institutions this year, a great deal of interest is being centered in case this exclusion is not successful, and to ascertain the extent to which preventive vaccination actually protects the individuals in these institutions.

Extensive studies in industrial establishments and public and parochial schools in the city of Rockford indicate that approximately 20 per cent. of all employees and school children are absent on account of illness and this condition is believed to exist in many other sections of the State, indicating conclusively that the cases of many individuals sufficiently ill to be confined to their homes are not reported to the local health authorities. It has been further ascertained that in many communities physicians are attempting to differentiate between so-called "La Grippe" and influenza, a distinction which cannot be made known by any known diagnostic means and which is not recognized under the rules and regulations of the State Department of Public Health.

Of the 17,694 cases of influenza reported up to and including January 24, the distribution in the several counties of the State is as follows:

Adams	8	Lee	23
Alexander	2	Livingston	88
Bureau	27	Logan	6
Boone	4	Macon	5
Bond	1	Madison	127
Brown	28	Morgan	173
Cass	27	Macoupin	19
Clay	15	Marion	18
Champaign	7	Mason	3
Cook	12,557	McHenry	59
DeKalb	59	McLean	5
DeWitt	1	Moultrie	5
Douglas	1	Ogle	18
DuPage	10	Piatt	3
Edwards	1	Pike	1
Ford	6	Peoria	7
Hancock	1	Rock Island	13
Henry	115	Sangamon	10
Iroquois	18	Stephenson	7
Jefferson	1	St. Clair	69
JoDavies	6	Shelby	1
Jasper	219	Tazewell	19
Jackson	1	Vermilion	14
Jersey	2	Wayne	3
Kane	61	Winnebago	3,016
Kankakee	11	White	2
Kendall	5	Will	94
Knox	12	Waukegan	5
Lake	645	Whiteside	8
LaSalle	19		
	13,870		3,824
Total			17,694

TUBERCULOSIS SURVEY AND CLINICAL CONFERENCE AT ALTON.

During the week ending January 9 nurses and field workers connected with the State Department of Public Health and the Illinois Tuberculosis Association carried on an intensive study of tuberculosis conditions in Alton as the final feature of the general health survey conducted by the State Department of Public Health, at the instance of the Alton Chamber of Commerce and the Alton Welfare Council. This survey ended in an all-day clinical conference held under the auspices of the Madison County Medical Society, the

Madison County Anti-Tuberculosis Society, at which considerably over a hundred persons were examined.

NEW CLINICS FOR CRIPPLED CHILDREN.

Within the past month additional clinics for crippled children have been established at East St. Louis, Princeton and Galesburg, by the Division of Child Hygiene and Public Health Nursing. At Galesburg and Princeton the financial affairs of the clinics are operated by the local chapters of the American Red Cross.

VENEREAL DISEASE WORK IN EAST ST. LOUIS.

The division of social hygiene of the State Department of Public Health is carrying out an intensive educational campaign in the various industrial plants of East St. Louis. Dr. T. H. Morrison and Dr. Irwin Koll have given lectures on the prevention of venereal diseases to a large number of audiences, these lectures being accompanied by a new two-reel motion picture entitled "The Venereal Menace."

A report of the work done by the East St. Louis Social Hygiene Clinic, which will be issued within a short time, was that there have been examined 609 persons, 432 of whom were found to be venereally infected with one or more diseases. In this group there were 241 persons suffering from syphilis, 169 with gonococcus infection, 7 suffering from balanitis gangrenosa, 36 with chancroid and 2 with other venereal infections. There have been discharged 156 patients, 102 as possibly cured and 54 as noninfectious, but not cured.

The East St. Louis clinic is operated in close connection with the office of Dr. C. W. Lillie, city health commissioner, and under the direction of Dr. Chas. F. W. Wilhelmj, president of the St. Clair County Medical Society.

SMALLPOX THROUGHOUT ILLINOIS.

While smallpox has prevailed to a moderate extent in a considerable number of isolated communities throughout the fall and early winter, the disease is now assuming more serious proportions and is spreading from a number of infected centers. Large numbers of cases are now being reported from Franklin, Gallatin, Greene, Scott and Warren counties.

The division of communicable diseases of the State Department of Public Health has issued a special note of caution to physicians and health officers in those sections in which smallpox is prevalent, calling their attention to the similarity in prodromal symptoms of smallpox and of influenza now prevalent in all sections of the State. In a number of instances cases diagnosed early as influenza and given no further medical attention or observation have later proven to be smallpox cases.

THE COST OF COMMUNICABLE DISEASE IN ILLINOIS.

The annual report of the State Department of Public Health for the fiscal year ending June 30, 1919, which is now in press, contains an interesting table showing the cost of sixteen communicable diseases in dollars and cents to the people of Illinois. This table is particularly interesting since for the first time it emphasizes the financial loss entailed through the influenza-pneumonia epidemic of last year.

In computing the cost of communicable disease, allowance of \$3,000 was made for the death of each adult and \$500 for the death of each child, and very conservative allowance was made for the cost of nursing and medical care, the cost of burial and the loss of time from productive labor. The total cost of communicable disease for the fiscal year ending June 30, 1918, was shown to be \$154,881,000 or a loss of \$24.67 for each man, woman and child in the State. For the fiscal year ending June 30, 1919, the total cost was swelled to \$223,634,515 or a per capita cost of \$35.16.

Influenza is shown to have cost the State \$73,710,000 and pneumonia \$48,633,000, the cost of pneumonia exceeding the cost of the previous year by about \$18,633,795. This excess cost is attributed to the pneumonia complicating influenza, making the total cost of the influenza-pneumonia epidemic \$92,343,795. Regardless of the epidemic of last winter, tuberculosis still remains the most costly disease of all, the loss entailed by it during the past fiscal year amounting to \$92,723,000, a reduction, incidentally, of \$23,000,000 as compared with the cost of tuberculosis for the previous fiscal year. The per capita cost of the influenza-pneumonia epidemic was \$11.59, while the per capita cost of tuberculosis was about \$12.00.

The total cost for each of the following communicable diseases was:

Typhoid fever	\$ 2,585,000
Malaria	1,641,340
Smallpox	278,300
Measles	523,160
Scarlet fever	214,875
Whooping Cough	428,670
Diphtheria	785,925
Influenza	73,710,000
Rabies	5,250
Tuberculosis	92,723,500
Syphilis	157,600
Gonococcus infection	635,200
Epidemic Meningitis	67,350
Poliomyelitis	143,000
Pneumonia	48,633,795
Septic Sore Throat	101,550
Total	\$223,634,515

THOMAS G. HULL APPOINTED.

The Director of the State Department of Public Health has announced the appointment under civil service of Thomas G. Hull as Chief of the Division of Research and Biological Laboratories. Mr. Hull is a graduate of Yale University, which conferred upon him the degree of Doctor of Philosophy. He has served with the American Museum of Natural History, with the United States Food Administration, and with the Massachusetts Experiment Station.

During the war he was in the Sanitary Corps of the United States Army, serving as laboratory officer for a hospital center of five base hospitals, and later serologist in the third army laboratory, having charge of the serological procedures for about 200,000 troops.

APPOINTMENT OF DR. SCHUMACHER.

Dr. H. W. Schumacher has been appointed as Medical Assistant in the Division of Child Hygiene and Public Health Nursing of the State Department of Public Health. Dr. Schumacher attended the University of Illinois and is a graduate of the Washington University Medical School of St. Louis, Mo. He served as interne in the Children's Hospital in that city. He was eligible to an additional year's service in the Children's Hospital when he entered the Medical Corps of the United States Army, in which he has been engaged until very recently.

Book Notices

BOOKS RECEIVED.

THE ILLINOIS MEDICAL JOURNAL is pleased to receive all new publications which may be sent to it, and an acknowledgment will promptly be made under this heading; but with this distinct understanding that, while a goodly number and perhaps all of them will be reviewed, the JOURNAL is under no obligation to notice or review any publication received by it which, in the judgment of the editor, will not be of interest to its readers.

THE MEDICAL ASPECTS OF MUSTARD GAS POISONING. By Alfred Scott Warthin and Dr. Carl Vernon Weller, with 156 original illustrations. St. Louis: C. V. Mosby Company, 1919. Price \$7.00.

SYPHILIS: A TREATISE ON ETIOLOGY, PATHOLOGY, DIAGNOSIS, PROGNOSIS, PROPHYLAXIS AND TREATMENT. By Henry H. Hazen, A.B., M.D. 160 illustrations, including 16 figures in colors. St. Louis: C. V. Mosby Company, 1919. Price \$6.00.

THE SYSTEMATIC DEVELOPMENT OF X-RAY PLATES AND FILMS. By Lehman Wendell. Illustrated. St. Louis: C. V. Mosby Company, 1919. Price \$2.00.

THE PRACTITIONER'S MANUAL OF VENEREAL DISEASES. With Modern Methods of Diagnosis and Treatment. By A. C. Magian, M.D. St. Louis: C. V. Mosby Company, 1919. Price \$3.00.

ANAPHYLAXIS AND ANTI-ANAPHYLAXIS AND THEIR EXPERIMENTAL FOUNDATION. By Dr. A. Besredka. With a Preface by Dr. E. Roux. English Edition by S. Roodhouse Gloyne, M.D. (Leeds), D.P.H.

(London). St. Louis: C. V. Mosby Company, 1919. Price \$2.25.

FOOD FOR THE SICK AND THE WELL; HOW TO SELECT IT AND HOW TO COOK IT. By Margaret P. Thompson, Registered Nurse. Cloth. ix+82 Pages. Price \$1.00. Yonkers-on-Hudson, New York: World Book Company.

BOOK REVIEWS

We publish full lists of books received, but we feel under no obligation to review them all; however, so far as space permits, we will review those in which we think our readers are likely to be interested.

MODERN SURGERY: GENERAL AND OPERATIVE. By J. Chalmers DaCosta, M. D., Samuel D. Gross Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. Eighth edition, revised, enlarged and reset. Octavo of 1697 pages, with 1177 illustrations, some of them in colors. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, \$8.00 net.

The eighth edition of this work has been received. The fact that it is run eight editions speaks volumes in its favor and indicates its popularity. It is a credit to the author even if written under the trying conditions of camp life as stated in the preface. The author states that the newer methods of preventing Tetanus and for treating infection, compound fractures, head injuries and chest injuries are of the very first importance. He still believes that pus of an empyema like pus anywhere else should be evacuated with the utmost promptitude. This work like its predecessors is practical throughout, it has been thoroughly revised and should prove a valuable book of reference. It should be in the library of every Doctor who makes any pretense of practicing surgery.

THE SURGICAL CLINICS OF CHICAGO. Volume III. Number 6 (December 1919). Octavo of 215 pages, 63 illustrations and complete index to volume 3. Philadelphia and London. W. B. Saunders Company, 1919. Published bi-monthly. Price, per year: Paper \$10.00; Cloth \$14.00.

This number contains the Surgical Clinics of a goodly number of Chicago's well known surgeons. Dr. Arthur Dean Beban presents three clinical cases as follows: Chronic Lung Abscess with Fistula; X-Ray Diagnosis of Gall Stones, and Fibroma of Large Intestines. Daniel A. Orth: Management of Neglected Carcinoma of the Breast. Emmett A. Printy: Cholelithiasis with Chronic Empyema of Gall-Bladder. Daniel N. Eisendrath and Maurice L. Goodkind: Sub-Acute Pancreatitis. Albert J. Ochser: Transgastric Cauterization of Crater Ulcer on Posterior Wall of Stomach. Alfred A. Strauss: Surgical Treatment of Gastrical Ulcer; Excision of Duodenal Ulcer. Carl Beck: Old Sinus from Hip Disease Treated by Skin sliding; Diverticulum of Urinary Bladder in an Inguinal Hernia; Gangrenous Hernia of the Bladder and Intestine. John R. Harger: Acute Hyperplasia of Thyroids with Dyspnea. Kellogg

Speed: Elephantiasis Nostras. Vernon C. David: Incontinence of the Rectal Sprincter; Retrovaginal Fistula. Dr. Gatewood: Lacerated Wound of Buttock. Golder McWhorter: Osteomyelitis with Variation in Growth of the Femur following Separation of the Distal Epiphysis. Benjamin F. Davis: Fracture-Dislocation of the Atragalus. William Thomas Harsha: Acromegaly. Thomas J. Watkins: Amenorrhea and Sterility Due to Functional Endocrine Disturbances. Edward Louis Moorehead: Multiple Uterine Fibroids; Secondard Anemia; Nephritis; Epigastric Hernia; Hernia of the Linea Alba; Gun-shot Wound of the Buttock.

Wesley J. Woolston and W. B. White, Report of 1000 Patients Operated on for Tubal Infection. Gustav Kollscher and J. S. Eisenstaedt: Lesions of the Female Uretha, Demonstrated in Four Cases. Herman L. Kretchmer, Diagnosis of Ureteral Calculi.

THE MEDICAL CLINICS OF NORTH AMERICA, Volume 3, Number 2 (The New York Number, September 1919). Octavo of 270 pages, 35 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Published bi-monthly. Price per year: Paper, \$12.00; Cloth, \$16.00.

This is the New York number. Dr. Warfield T. Longcope, a clinic on Cerebral and Spinal Manifestations of Purpura Haemorrhagica. Dr. Leo Buerger, Cystitis; Discussion regarding its Therapy. Dr. G. R. Pisek, Common Disorders of Childhood. Dr. Herman O. Mosenthal, the Symptoms and Treatment of Retention of Waste Products in Nephritis. Drs. W. W. Herrick and A. M. Dannenberg, recurring Meningococcic Meningitis. Dr. Arthur F. Chase, The Value of Chemical Blood Examinations in Diagnosis, Prognosis, and Treatment of Some Constitutional Conditions. Dr. George Stuart Willis, Radium Therapy. Drs. M. A. Rothschild and A. O. Wilensky, Cholelithiasis. Dr. Morris H. Kahn, Functional Diagnosis of the Heart. Dr. Albert R. Lamb, The Flint Murmur. Dr. A. S. Blumgarten, Vagotonia and Sympathicotonia as Aids in the Diagnosis and Treatment of Endocrine Conditions. Dr. Heinrich F. Wolf, Physical Therapy in Locomotor Ataxia. Dr. I. W. Held, A Discussion on the Splenomegalies.

THE NARCOTIC DRUG PROBLEM, by Ernest S. Bishop, M. D., F. A. C. P. New York. The MacMillan Company, 1920. Price \$1.50.

This book is just off the press and is very timely and should help greatly in clarifying the perplexing situation of Drug Addiction. There is no man in the United States or for that matter in the world who has as broad a knowledge of Narcotic Addiction as the author of this remarkable little book. Dr. Bishop states in lucid terms just what the narcotic problem is and how it may be controlled. His pronouncement

is revolutionary in conception and will give a message of hope, not only to the addict, but to physicians generally, any one of whom can handle the cure morphine addiction if properly informed,—administrators, legislators and others interested in the solution of this problem.

Dr. Bishop's statement is plainly that there is an addiction disease and this real disease should be treated as our other diseases. This is in direct opposition to the general conception that addiction is a "vice," a "habit," a "morbid appetite," and should be punished socially as well as legally. The way in which its victims are spoken of as "drug habitue," or "drug fiend," or "dope fiend," shows scientific neglect of it and apathy and indifference on the part of those who ought to better informed.

Dr. Bishop has devoted much study and experimentation in trying to solve the drug addiction problem. His national reputation is such and his book is so timely that it will prove a valuable adjunct to everyone interested in this perplexing problem.

DISEASES OF NUTRITION AND INFANT FEEDING, by John Lovetts Morse, A. M., M. D., and Frits A. Talbot, A. B., M. D. Second edition, revised. New York. The Macmillan Company, 1920. Price \$4.00.

This work contains 384 pages. The first edition appeared in 1916, the present work is much larger; it has been thoroughly revised, considerable new data has been added and it has been brought down to date in so far as the exigencies of the world's war permitted. It gives a detailed description of a scientific basis of rational infant feeding. The work is intended to satisfy the demands, on the one hand of those students who wish to become acquainted in the original with the data on which the scientific basis of infant feeding rests and, on the other of the general practitioner who wishes to learn the clinical and practical side of infant feeding. We are satisfied that it has fulfilled the intention of the authors.

THE WOMAN OF FORTY, by Edith B. Lowry, 194 pages. Published by Forbes & Company, Chicago, Illinois. Price \$1.25.

Evidently Dr. Lowry has aimed to supply in these aptly written chapters a volume of encouragement that may be recommended safely by the physician to his middle-aged patients who feel the duress of years and need advice that will cheer and not obfuscate. Dr. Lowry's viewpoint is that forty years of life mark the opening of the gate to genuine development rather than the great divide between youth and old age. Fashionable dress, constipation, live interests, a definite ambition and the frequent need for seeking thorough physical examinations from reputable physicians and dentists are vital points emphasized in the book as well as the admonition that women past thirty must remember the charm that lies in a "bridled tongue."

Society Proceedings

ALEXANDER COUNTY

December 18 the Alexander County Medical Society held its annual banquet and election of officers at the Halliday Hotel in Cairo, at which meeting the following officers were elected: Dr. Jas. M. McManus, president; Dr. Charles L. Weber, vice-president; Dr. Jas. S. Johnson, secretary and treasurer; censors: Dr. O. M. Dickerson, Chas. L. Weber and J. E. Woelfle; delegate to the State medical association, Dr. W. L. Grinstead; alternate, Dr. Jas. W. Dunn.

There was no scientific program but a banquet following the regular business and election of officers that was a very enjoyable affair. Dr. G. H. McNemer acted as toastmaster. Response was made by the outgoing president, Dr. R. E. Barrows, and by President-elect Jas. M. McManus. Dr. W. F. Grinstead spoke on "Medical Organization" and Dr. Chas. L. Weber on "Military Experience." Dr. H. A. Davis and others told a number of good stories.

The Alexander County Medical Society had a very prosperous year, the average attendance was good and a great deal of interest was manifested by the members.

We hope next year to be the best in the history of the Society.

JAS. S. JOHNSON, Secretary.

CHRISTIAN COUNTY TAYLORVILLE BRANCH.

This meeting, held at the office of Dr. D. D. Barr in Taylorville, December 27, 1919, was called for the purpose of formally taking recognition of the death of Dr. C. L. Carroll, which occurred at 5 p. m. on the 26th day of December, 1919.

At this meeting, after the various good qualities and kindly disposition of Dr. Carroll had been discussed and commented upon, the following preamble and resolutions were unanimously adopted:

WHEREAS, The Great Creator of the Universe had removed from among us our beloved brother and friend in the person of Dr. C. L. Carroll, the physicians of Taylorville have met in solemn session to record our sorrow and to express our sympathy to the bereaved family who remain to mourn his departure; and,

WHEREAS, Dr. Carroll has for many years been a valued and active member of this society and at times has served in official capacity, we deem it fitting and proper that we express our appreciation and love for him and make a record of these actions in the minutes of this meeting and records of the Christian County Medical Society; therefore, be it

Resolved, That in the death of Dr. C. L. Carroll this society has lost a most valuable member and that, with his family, we sincerely mourn his passing away; also, be it further

Resolved, That these resolutions be recorded in the

minutes of this meeting and the records of the Christian County Medical Society, and that a copy be sent to the family and likewise a copy be sent to the ILLINOIS MEDICAL JOURNAL.

(Signed) DR. T. A. LAWLER, Pres.
DR. D. D. BARR, Sec.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, January 7, 1920

1. Occlusion of the Right Posterior Inferior Cerebellar Artery: George W. Hall.
2. Possible Advances in Civil Medicine Suggested by Experience in Treating War Injuries of the Chest: J. L. Yates, Milwaukee, Wis.
3. The Cystic Dilation of the Ureter with Report of a Case Successfully Operated Upon: F. Kreissl.

Regular Meeting, January 14, 1920

1. The Cystic Dilation of the Ureter with Report of a Case Successfully Operated Upon: F. Kreissl and Wm. Gehl.
2. Coccygodynia: Chas. J. Drucek.
3. Transpleural Laparotomy in Pathological Conditions of the Upper Part of the Abdominal Cavity and in Perforating Transdiaphragmatic Wounds of the Abdomen: A. G. Zimmerman.
4. The Treatment of Gonorrhea in Women by the Methylene Blue Process: W. A. Newman Dorland.

Joint Meeting of the Chicago Medical and Chicago

Surgical Societies, January 21, 1920

1. Traumatic Injuries to the Chest in Civil Practice: George P. Muller, Philadelphia, Pa.
Discussion: J. L. Yates, Milwaukee, Wis.
2. Empyema: Evarts Graham, St. Louis, Mo.
Discussion: W. W. Hamburger, Ernest Irons and Jos. L. Miller.

Regular Meeting, January 28, 1920

1. Clinical Problems Relating to Chronic Suppurative Disease of the Middle Ear: George E. Shambaugh.
Discussion: Norval Pierce.
2. Treatment of Eczema: J. S. Eisenstaedt.
Discussion.
3. Projectile Fracture of Bones—A Comparative Mechanical Study: Kellogg Speed.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting May 12, 1919, Continued

DISCUSSION ON COMPENSATION TABLE

He also believed the point had been arrived at where they could interpret the Springfield table on a percentage basis and that they might adopt a table which might be the Springfield or the Milwaukee, and find that in the money paid the amount would be practically the same. A table of this kind might at this time or at any time be given to the courts or to the industrial commission as a working basis, and all other questions must be settled by the opinion of the oculist, and the oculist representing the injured man might express his

opinion. An expert called in by the Commission might express his opinion, and if the employer wanted still another man that opinion might be recorded, as the oculists were united. In other words, science and the three opinions would not differ very much and they could be added and divided by three and the amount really awarded the man would be about the same. He thought the award in many ways was very liberal; in Illinois the award was \$12.00 based upon 100 weeks, and in Wisconsin it was \$9.40 based upon 140 weeks, so it was about the same.

In his opinion it would be well for the oculists to have a table of their own in which they could offer their opinion on a given case. That might enter into the literature and be known to the board to be referred to, but that they should not ask the board to apply it except as deductions were made by some oculist. He considered stereoscopic vision negligible.

He hoped that the very simple matters and very practical questions had shed some light on the subject. He thought the oculists should fight out the question regarding the removal of cataract which resulted from injury.

DR. CHARLES C. CLEMENT thought it was impracticable to recommend a single report for the guidance of the Industrial Board and also for the guidance of the oculist. The Board should have a simple report which they could work on and there should be another report for the oculist. The Industrial Board would not be able to understand a very complicated report and simplicity should be the keynote of the report sent to them. He saw no reason why the society should not go ahead and lay the foundation by adopting the Springfield schedule for the guidance of the Industrial Board and then build on top of that as elaborate a report as they pleased for themselves.

DR. H. H. BROWN suggested that it would be well for Dr. Allport's motion to be so modified as to embody the Committee on Compensation Table and let them take up the report upon the Springfield table. He thought the work of the society should be considered and recognition should be made of that committee, as it still existed.

DR. FRANK ALLPORT said that in making this motion, he supposed that this committee, represented by Drs. Gradle, Brawley and Woodruff, had handed in their report to the society and had been dismissed. Dr. Allport said he had no desire of producing any embarrassment to this committee, and while he did not regard their report as a satisfactory solution of the subject, he would withdraw his motion and recommend that the matter be reconsidered by the committee, and hoped that they would regard, with favor, the Springfield table which he had brought to the notice of the society.

He wished to admonish the committee to give up the discussion of abstract and involved problems and to endeavor to bring in a report that could be understood and adopted by laymen of average intelligence.

DR. ROBERT BLUE considered it very essential to know for what purpose the table was to be compiled. Whether for the guidance of the insurance companies, the Industrial Board, or for the estimation of ocular efficiency by oculists. If for the laymen it would be one thing and if for the oculists it would be another. If it was for the Industrial Board it should be as simple as possible. If for the guidance of the oculist in determining ocular efficiency an accurate guide for judgment should be sought rather than mathematical simplicity.

ALFRED MURRAY, Secretary.

CHICAGO UROLOGICAL SOCIETY.

Meeting, November 20, 1919.

PHANTOM KIDNEY STONE.

DR. JOSEPH A. JERGER: The subject matter of kidney stones is well known. I simply want to present a peculiar phase of the radiographic findings of nephrolithiasis. The appearance and disappearance of the shadow in this particular case prompts me to title my remarks, "Phantom stone." The suggestive findings

even demanded surgical interference and the lower pole of the kidney was explored for the two calcareous deposits that were responsible for the shadow, but what was responsible for the disappearance of the shadow is beyond my comprehension. These plates were taken at different intervals. At one time we saw the stone; the next time we did not. Why the disappearance remains a puzzle to us. The kidney was pyelographed. Several prints showing two shadows were presented.

DISCUSSION

DR. J. P. O'NEIL: It might have been something in the bowel that passed on.

DR. E. G. MARK, Kansas City: What prompted you to repeat the examination? Did you find the shadow in all the pictures of the same series?

DR. JERGER: We gave the patient a bismuth meal and followed it up with three pictures. The findings of the shadow-graph catheter shows we were correct in the diagnosis, but the disappearance after taking a series of pictures was very puzzling to us. Whether there was anything in the density of the stone to give that disappearance or whether it was due to the technic of the radiologist, we cannot say.

DR. JERGER (closing): We took a series of pictures. We found the shadow in all the pictures of the same series. Thinking that it was due to a radiographic error or a defect in the plate, we took other pictures.

BILATERAL CYSTIC KIDNEY—DOUBLE URETER—VESICAL CALCULUS.

BILATERAL CYSTIC KIDNEY.

DR. IRVING S. KOLL: This is a specimen from my clinic in Post-Graduate Hospital. The man was 49 years of age, with every evidence of a marked cachexia. He gave the history that for three weeks he had a very pronounced hematuria. When he urinated he passed pure blood. I catheterized both ureters and from the right side obtained pure blood and from the left side perfectly clear normal urine. On the side of the hematuria a tumor mass was palpated. There was nothing palpable on the other side. I operated and removed the upper one of these tumors. For three days the patient passed a normal quantity of urine. On the beginning of the fourth day he showed signs of suppression. For thirty-six hours he passed no urine and I decided that the only hope was to excise the kidney. I went in on the other side and much to my amazement found another pericystic kidney. The only thing to do was to remove the kidney. He died two days later and I obtained this second specimen, which shows at the lower pole of the kidney, probably 1 square inch of normal renal tissue, which had worked its way into the pelvis of the kidney from which we were getting clear urine.

DOUBLE URETER.

This was discovered by accident during the course of routine cystoscopic examination in which there were no obstructions at all and urine was obtained from both ureters. The catheter, as you can see, went all the way up into the kidney. At the second sitting we had hoped to do a pyelography, but the patient has never returned for one.

VESICAL CALCULUS.

This vesical stone has one peculiar point of interest. This was taken from the bladder of a 1st Lieutenant of the Infantry, who wandered into my office when I was urologist at Camp Mills. He said he was accused by the Commanding Officer of malingering. On cystoscopic examination this stone was seen in the bladder.

We open the bladder under local anæsthesia and as this stone was withdrawn from the bladder, we found a piece of paraffin at the upper end. He did not tell me anything about the fact that he had been manipulating by intraurethral masturbation. We got the exact date at which the piece of paraffin broke off in his bladder and it was six months before the date of operation. From that we can see how long it takes a stone to form in the bladder.

DISCUSSION

DR. HERBST: I ask this question in the way of criticism. Why did you not crush that stone?

As to the pericystic kidney, I think the removal of a pericystic kidney is always a radical procedure and I think it is the last thing we ought to do. If a man has a pericystic kidney and we can tide him along in any way possible we ought to do it. I think if we go so far as to do a nephrectomy for a pericystic kidney, we ought to first ascertain the condition of the other kidney. In any event, if a man has a pericystic kidney and we can tide him along with ordinary treatment, I think he is better off. If he gets to the point where he is having pain and hematuria, I think it is a good idea before we remove the side we intended to go in and take a look at the other side.

DR. CROCKETT, La Fayette, Ind.: I am interested in the stone case that Dr. Koll reported. I have seen recently a case in an old man, some 80 years of age, with an enlarged prostate and a bladder that was filled with stones. I got something over 1,100 small stones from the bladder. The number seemed to be worth reporting, otherwise the case was not of any particular interest.

Recently I found a stone shaped very much like a jack-stone in a female bladder. The patient had been troubled for about two years and had received medical treatment for it. Bladder stones are more or less uncommon in females, but in this case there was a large, pronounced spicule. The same condition of residual urine that occurs with an enlarged prostate in the male.

I had another case in a soldier from a neighboring town, who had been in the Army and had bladder trouble. He had been accused of malingering while there and received treatment for the bladder trouble. On cystoscopic examination there was a fair sized stone in the bladder. These cases have been overlooked, in the Army especially.

DR. E. G. MARK, Kansas City, Mo.: The paraffin case recalls one I saw a number of years ago in which a piece of paper twisted in the form of a lamp-lighter had been introduced into the urethra. That was three weeks before I saw the case. When I saw him the deposits of phosphate were so strong that it was impossible to insert the operating cystoscope. What I want to call attention to is that the stone had formed in so short a time. You can have a stone form very quickly. I recall a case of a chewing gum stone. When I used the lithotrite in this case I got a peculiar sensation as of something pulling against the stone. I could not pick up the large fragments. I did not know what was the matter until I pulled out my cystoscope and there was the chewing gum.

In regard to Dr. Koll crushing the stone in the bladder, I might say that we did not have lithotrites in the Army.

DR. L. E. SCHMIDT: As far as the question of paraffin is concerned, it is occasionally introduced in other ways than masturbation. As a matter of interest, some years ago I came across a case of stone in the bladder which had formed around

a piece of paraffin. I removed the stone suprapubically under local anæsthesia. The reason why I did not crush the stone in the bladder was on account of the size. The reason I mention this case is because there was a medico-legal aspect in connection with it. It was a case that took place here in Chicago. I was asked by the attorney why I did not crush the stone. The only excuse I could give was on account of the size and on account of the intense cystitis, though he was a young man. I could not account for the cause. In fact, the patient himself did not know the cause at the time he consulted me. After the stone was removed and had cross-sections made, I found the mass of paraffin in the center of this stone that was as large as an English walnut, possibly larger. There were encrustations around the paraffin, making the size of the stone that of a fair-sized lemon. When this question came up for settlement and when I told the patient there was paraffin, I inquired as to masturbation and whether he had carried out any procedure. He denied that, but said he had been treated for acute gonorrhoea some year and a half previously. He then remembered that some semi-solid fluid had been injected, which was supposed to remain in contact with the urethral mucosa. Of course, these methods of treating gonorrhoea are well known. The doctor then came around to see me in connection with the case and upbraided me for not having crushed the stone and removing it in that way, because, he said, "If you had done that, you would have found that you had a nucleus of paraffin and it would be up to you to dissolve this paraffin with benzine."

It is a well-known fact that there are a number of these cases recorded in the literature. At that time I had occasion to look up the literature and found the same thing recorded, and it was shown that you could dissolve paraffin with benzine or gasoline without injuring the bladder mucosa. I thought this case would be of interest on account of the enormous size of the stone. I never suspected for a moment what the nucleus was. If the patient had returned to the original doctor he would have suspected what the nucleus was, crushed the stone and dissolved the paraffin.

In regard to pericystic kidney, I have seen in recent years a number of cases and I have removed not less than five or six kidneys in which there have been intense hemorrhages and found at operation a pericystic kidney. I have had occasion to remove pericystic kidneys for intense hemorrhages and I have had no occasion to regret their removal. I understand there have been objections to removing a kidney of this type. As far as I am familiar with the literature no one ever questioned the double sidedness of pericystic kidney. There is only one produced in the last five or six years that states that pericystic kidney was singular. We are all familiar with that also and as much as I know that literature was obtained by correspondence from the men who had operated and they had never had experience in the genito-urinary work. I might say that many of these patients were operated by Chicago surgeons.

As far as all these procedures are concerned of puncturing and trying to stop hemorrhages and trying to drain pericystic kidney, they may be to the satisfaction of the men who have not had much experience for the simple reason that if a man would expose a kidney of that kind and puncture a number of these individual cysts he might obtain some relief if there were only one or two cysts. He is entirely mistaken in his belief that that will relieve the patient. It would be very nice if there were only one or two cysts that were causing the hemorrhage. I will admit that those who have tried that have reported rather favorably. In the two cases I have seen under my own eyes these procedures were not sufficient.

As far as exposing and examining the opposite kidney in order to find a pericystic kidney becomes unnecessary because it is beyond a certainty that you will find a pericystic kidney on the opposite side.

As far as the urine is concerned, any one who catheterizes this type of case will find urine that is characteristic of ordinary chronic interstitial nephritis. In many of these cases of chronic interstitial nephritis, you do not find any albumin and invariably you find light colored urine with a light specific gravity from the quantity given off. Then if you take the specific gravity and estimate the urea, you will get a report that

will with certainty permit you to operate on this side, and I will venture to say that you would do a nephrectomy without taking into consideration the opposite kidney. I want to agree with Dr. Herbst that it is always desirable when you are dealing with a pericyclic kidney, even though you cannot feel the healthy side, to put such a patient on the same kind of treatment as a patient suffering from chronic interstitial nephritis. It is possible to treat such a patient without hemorrhages. When the hemorrhage once starts it keeps up. There are many cases in which these hemorrhages are intense, so intense that surgical interference is absolutely necessary in the way Dr. Koll carried it out.

DR. MARTIN: I would simply like to state that it has been my experience the last year to observe several cases of calculi in the bladder following prostatectomy, where men have had a suprapubic prostatectomy and from three to six months later in all the cases there was a large calculus formed in the bladder, and the reason was, that this calculus formed around some little tag of mucosa that was left free in the wound. It only stands to reason that these calculi can form very rapidly.

DR. KRETSCHMER: In reference to the occurrence of double ureter, the fact that interested me in Dr. Koll's case was whether he tried to decipher from the x-ray where the ureter crossed. I have seen three or four cases and all of them have crossed down about the origin of the brim of the pelvis. I have seen three or four in normal individuals. One was in a stricture of the ureter and the patient passed a stone from the opposite side, that is the normal side. I think Dr. Koll and Dr. Schmidt are correct in reference to the treatment of pericyclic infection. Pericyclic kidney is always bilateral. I think if you are going to do any operating, you have two real indications for operation, one is to stop the bleeding and the other is, if the patient is very sick, you have to operate and pack just as Dr. Koll did. The fact that stands out very prominently in his case is that he was not able to tell what was on the other side.

DR. KOLL (closing): The point of interest in connection with the stone was that the patient admitted afterwards that he knew the time the paraffin broke off and consulted a physician, who told him not to worry about it, it would melt.

I think Dr. Mark answered Dr. Herbst's question; we had no lithotrites in the Army.

I think it showed very distinctly on the x-ray plate that the ureters did not cross. Legrue has reported some cases in which accessory ureters have been implanted in the vagina and he also reports one in the external urethra of the female.

In regard to the pericyclic kidney, I think Dr. Schmidt is right. With this patient, whose hemoglobin was only 40, I did not know what to do except to do a rapid nephrectomy.

SOME ADDITIONS TO THE SURGICAL TECHNIQUE OF THE EPIDIDYMIS, VAS AND SEMINAL VESICLES.

ERNEST G. MARK, M.D., Kansas City, Mo.: I feel that the work we have done in the last year has brought to light a few things that may be of interest and may be of value in vasotomy, if vasotomy is ever used extensively.

A good many of you will recall when Thomas Sippy read a paper on vas puncture at the American Urological Society and spoke of picking up the vas and inverting a needle. At that time he was rather roundly jumped on and I think with a good deal of cause. I think we can dismiss any idea of vas puncture. I think after one has done much vas surgery, he can see how impossible or impracticable it is to strike the lumen of the vas with a sharp needle. There has been no question in my mind since Dr. Herbst and Dr. Belfield brought this to the attention of the urologist of the value of vasotomy. There has only been this question, that is in injecting into the vas or washing out through

the vas whether or not we get into all the little ramifications of the valves, whether we do not possibly wash in something into the posterior urethra and do not get into the ramose. We have practically abandoned vasotomy if the case is in any way suitable for vasotomy.

There is no need of going into the technic of opening up the vas. The point we make is this. It is always done under local. The patient is put on the table and before he goes into the operating room the vesicles are practically stripped of their contents, at which time the patient urinates. Upon going into the operating room the vas is picked up in the usual manner, not by a high incision, but at a lower part of the scrotum the vas is opened by a linear incision, stripped down, and a silkworm gut suture passed up into the vas. We make the injection and wash out as quickly as possible the vas. After we have made the injection of 10 or 15 c.c. into the posterior urethra, the assistant puts his hand into the rectum, bringing pressure on the urethral portion of the prostate. Then the injection is made. We are using at present an ordinary needle with the smaller part broken off so that the needle fits fairly snugly into the vas itself. After the injection is made into the vas, closing off that portion of the ejaculatory duct, then the valves are filled with irrigating solution. We are using argyrol, 20 per cent. solution. Dr. Belfield has been using collargol. Sometimes in making this injection the thing that was called to our attention by Dr. Belfield was that after 2 or 3 c.m. were injected there was a sudden giving way, which I think they attributed to a giving way of the sphincter, but we found this same thing in injecting the vas in the other way and we believe it is the giving way or breaking up of these little ramifications in the vesicle itself. One of the things we have to guard against in putting so much pressure on valves of that kind is the regurgitation that may take place along the vas and into the epididymis. It is merely sufficient under circumstances of that kind to insert a silkworm drain. In the first case we got a definite backflow and a definite artificial epididymitis, because we did not close off the vas. Since that time we have use of two or three procedures. We have used two or three silkworm guts, simply throwing a light catgut ligature around them. Lately we have made use of two things, a curved probe against the scrotum, and we have also made use of an ordinary safety pin that has been broken off and rounded off so it will enter the vas itself.

We are experimenting, of course, and though the time of using the procedure is too short to give any definite results, we believe by that method we can accomplish some good.

Not long after my return from service I was called into the operating room nearby where a man in doing a varicocele operation had tied off his vas and he wondered what to do. It was a question of anastomosis. We found it rather hard to do an ordinary anastomosis, so we inserted a very fine cambric needle on which we tied a silkworm-gut and brought it on the vas. Then inserted a silkworm-gut on this end and drew the ends together, the silkworm-gut making a

continuous pull and practically keeping open the lumen of the vas. With a small eye needle the ends of the vas were brought together.

Again we had the same thing happen with a case operated by one of our assistants, in which he cut the vas in two in doing a vasotomy. That method has also been used since in stricture of the vas. We have used it where there has been a certain amount of vasculitis and in starting to go into the vas we found a stricture of the vas.

This brings us to the point of early epididymotomy. We have found, as probably most of you have, that it is awfully hard to get a man to go into the hospital and have the epididymis opened, even with an acute epididymitis. There have been so many methods, such as making a little puncture, treating the testicle, etc. We have found that the only technic to follow is that of Hagner. When we got these cases in the army—we started first at Camp Sheridan putting them on an ordinary Belfield table, and somebody gave them anti-meningococcic serum. I have seen that act almost like morphine. In opening the epididymis we opened the entire capsule of the epididymis. The whole capsule is split from end to end. You see the tubules practically roll out. When you get through, you could no more close that capsule with those enlarged tubules than you could fly. We use a blunt-pointed instrument and go into the tubules and get out the pus. We believe no epididymotomy should be done without opening the capsule entirely. We feel that epididymotomy should be done on all cases of acute epididymitis due to gonorrhea which do not subside in 24 hours.

When we come to the question of when to do epididymotomy and when to do epididymectomy, we find these men coming back to us after we have done epididymotomy. I had one three months ago and one six months ago, so that I feel epididymotomy does more harm than it does good. In those cases in which there has been a recurrent epididymitis and in which there is much enlargement of the epididymis, not an epididymotomy, but an epididymectomy should be done. We believe we are pursuing it along the right line. Incidentally, it may be said that no epididymotomy is done without a vasotomy. At the time we do this we also wash out the bladder. At the time we do the epididymotomy we should also do the vasotomy and at that time an injection is made into the vesicle under pressure. In this case we do not fear regurgitation that would take place backward into the epididymis. In fact, we rather welcome it. In other words, we make no efforts in this type of case to tie off the proximal end of the vas. We have not made use of procedure of drawing up the vas and sewing it to the skin. We have made use of the procedure of threading in a silkworm-gut and using it as a guide to make the injection.

We think we do not get much better results from vesiculotomy than from vasotomy. Since my return from service I have done only two vesiculotomies. In other words, I believe the vesicle that gets to the point that requires drainage which cannot be accomplished

by a vesiculotomy properly done is the vesicle that should be removed. The technic that we make use of is practically a modification of Cabot's technic and also of Cunningham's and George Whiteside's of Portland. We make our primary incision as if we were going after the lower end of the ureter; in other words, as if we were making for a stone at the lower end of the ureter, opening extra-peritoneally and picking up the vas as it leaves the vessels and using it as a sort of a fishing line, pulling it up until we come to the ridge. At that point we break through with a blunt dissection, at which time all hemorrhage is stopped. The wound is left wide open; it is not closed; in other words, we do not go through the inguinal canal as described by Cunningham by cutting extraperitoneally. This wound is left wide open. It is applicable in those cases in which we want to do an epididymotomy. In other words, if you are doing a simple vesiculotomy the vas is tied off and no more attention paid to it. In this operation the vas is tied off and the patient is thrown up into the extreme lithotomy position. An ordinary curved incision is made in the perineum and a dissection made down until we come to the fascia covering the point where we would ordinarily go in for the vesicle. At this point the assistant puts his hand into the wound and pushes down the edge of the vesicle. By simply making an incision down along the vesicle we can practically deliver that vesicle out of the peritoneal wound. We are not concerned about bleeding because we have done away with the bleeding in the primary incision. If it is tuberculous, we make a V-shaped incision on the prostate itself and remove that portion which is diseased. A distinct advantage of this operation is by the pressure of the assistant's hand in the open wound so that the vesicle is practically delivered in the open wound.

DISCUSSION

DR. BELFIELD: Mr. President, I would like to begin at the end of Dr. Mark's remarks and congratulate him on his improvement on the standard operation of vesiculectomy, which is unquestionably a great improvement. Also on his implied rather than expressly made statement that vesiculectomy should be done where in the past vesiculotomy often has been done. Vesiculotomy is necessarily a blind affair, which was all right at the time when no one had observed the peculiar branching formations of the vesicle and when they used to think they had to simply go into the sac and drain it.

I come now first to the x-ray pictures that have been taken which show that the vesicle resembles very much the weeping willow tree, so that we can understand what a wholly blind affair vesiculotomy was. While there is no doubt that this destruction of the vessels cured some cases of vesiculitis, and I have done a few myself, a good many surgeons who attempted this operation did not know what they were trying to do.

In January, 1895, the Mayos reported a case in the *Annals of Surgery* of a young man who had received a stab wound in the scrotum, one of the results of which was a division of the vas. They used just the method that Dr. Mark has described, except that they used catgut and left it in. Some years afterward Dr. Lydston of this city re-discovered the method, using silkworm-gut and bringing it out through the skin, a big improvement for our purpose over the catgut of the Mayos. That has become of late a rather standard operation, of resecting the vas in the scrotum when necessary and reuniting it by rows of silkworm through in the way Dr. Mark described.

That serves as a splint to hold the cut ends of the vas in position. It is a simple thing and a very satisfactory thing to do. There is one thing, though, that both the Mayos and even Dr. Mark used and that was an ordinary fine needle with the thread passed through the eye of the needle. Now, of course, the vas is so manipulated that to pass the thread into its lumen and then out means sewing of the two layers of the silk or whatever you use. I have for a good many years in working on the vas run a fine silkworm thread through the finest hypodermic needle it would carry, usually a 24-gauge, inserted the hypodermic needle and then passed the silkworm through, so that your wound in the vas is nothing but a hypodermic puncture, and then withdraw the needle and you have the thread in position. Really I think that is a modification.

It is very gratifying indeed to one who has preached for years the fact that epididymotomy is merely a temporary affair, and to hear Dr. Mark emphasize the absolute necessity when one makes an epididymotomy of injecting the vas and the vessels and cleaning out of the vesicles. This is so self-evident that no one would do an epididymotomy without washing out the vesicle. We all know that the vesicle is infected before the epididymis. I am speaking of gonorrhoea and other infections not hematogenous. It is usual when the vesicle gets blocked that it breaks down and pushes the contents into the epididymis. It is strange that any one ever did an epididymotomy without trying to get the pus out of the vesicle. I did it myself before the French brought out this operation. I did an epididymotomy and thought I had done something very good, and about two months after the patient came back with the same epididymis swelled up. Then, of course, it dawned on me what should have dawned on me before—that I had mopped up the floor and let the faucet run. The second time I cleaned out the vesicle and this is what brought me to the habit of washing out the vesicle. I want to emphasize what Dr. Mark has shown that no epididymotomy should be made unless at the same time the vesicle is cleaned. I might say incidentally that I have seen twelve cases, including some cases of my own, where the epididymis that had been incised has become reinfected without any fresh urethral infection. One was operated by a very excellent genito-urinary surgeon and that man had three recurrences within five months on the same side. It stopped as soon as he washed out the corresponding vesicle. They say, "Oh, well, a good many cases of epididymotomy do not have a recurrence," which is also true; but it is true that in a good many cases there is recurrence. It is perfectly obvious that what Dr. Mark said about epididymotomy without washing out the vesicle is absolutely correct.

The most notable thing as far as I am concerned was Dr. Mark's suggestion about making complete discharging of the vesicle by pressure on the ejaculatory duct. That strikes me as very promising. That is something I shall follow. He is also right in saying that failure to cure these patients is due to the accumulation of a semi-solid inflammatory shreds in these parts of the vesicle that open off. I have recognized that and know that my 20 to 25 per cent of failures to cleanse the vas were due to the fact that I did not know about these semi-solid masses. I have seen repeatedly the effect of collargol and very likely some other things in softening and bringing about those things. Take, for instance, a man with a chronic vesiculitis. We strip the vesicles and he does not get well. When we douche him with 6 per cent collargol and now oftentimes right at the time there will be lumps of stuff come out with the urine. If at the end of urination the vesicles are compressed, the contents of the vesicles in the shape of semi-solid black masses colored with collargol will come and massage of the vesicles will bring a lot of rubbish that you never dreamed was there, and I think that failure to clean out the culdesac, as Dr. Mark emphasized, is the reason why in certain per cent of the cases we do not secure success in cleansing the vessels. I doubt very much, however, whether the trouble is a failure to get into this culdesac. In the first place, I have made a good many x-ray pictures of vesicles injected with collargol and one sees the ends of this vesicle perfectly rounded and curved. We did not see any with dark, irregular ends as if blocked, so

I am not so sure that the collargol does not go into the ends of these branches, but I am pretty sure that it does not always soften and bring them out, and that is the reason why we do not get them cleaned out, and that is why I always place a silkworm-gut in the vas so I can inject there as often as I please.

One question I would like to ask, Why do we let all these gonorrhoeal cases become chronic in the vesicles? I think that is where there is a chance for us not only to do our patients good, but to show to the profession in general that we can do better in treating acute gonorrhoea than they can. Now I regret to say that a good many of them do not think so and I am not sure that many of them are not right. I am speaking of acute gonorrhoea. If the general practitioner will do right, he will send the patient to some one whom he knows has had more experience than he has. If we are perfectly frank we will admit this, when we get a case of acute gonorrhoea in a certain large percentage of the cases it goes into the deep urethra. I am sure it is true in a majority of the cases, of acute gonorrhoea, the infection goes into the vesicles within the first week; then the reason we do not all recognize it is that we have not differentiated the infection in the prostate from the infection in the vesicles. I do not know that it always goes into the vesicles, but it often does. Assuming that in a given case we recognize the extension into the vesicles, what is our standard orthodox treatment? According to the text-books it is systemic treatment that the patient is given. Now we know for years our systemic treatment consisted in waiting until nature had reduced the acute infection before we felt safe in beginning to massage and strip the vesicles, and we hoped in the meantime that the infection would not spread to the epididymis and that the patient would not get gonorrhoeal rheumatism and that he would not get all the things that come from acute infection. If you stop to think that the area of the vesicles is nearly equal to that of the urethra, you see what a real wealth of infection we have which we do not attempt to manage. I am sure that in time when the attention of the urologists are brought to it, we will take care of the cases in the manner we should. We do not need to elevate the vas as we used to and disturb the relations. We do not disturb the vas. We make a skin incision $\frac{1}{4}$ to $\frac{1}{2}$ inch over the vas, simply nick the vas enough to insert the hypodermic needle, put in a silkworm-gut and carry through the hypodermic needle out through skin and use that as a guide to reinject as often as may be necessary. I may be, of course, mistaken, but I wonder if you gentlemen have had the experience which I had just a few months ago.

A well-known physician in this town sent in a relative of his with acute gonorrhoea. About the fourth week he had an acute infection of the right elbow and the tendons of the anterior tibial region, with a temperature of 102.5 degrees. In other words, he had an acute blood infection, with localization in at least two spots. Now, until the last few years we could not do much for this type of patient. This man had his vesicles washed out promptly and in nine days there was no evidence of the constitutional infection. It took but three weeks to clear up the rest of the discharge.

I would suggest that if we got our treatment of chronic vesiculitis pretty thoroughly disseminated through the profession, then we should teach them that we should not have chronic vesiculitis and that we should not have all the well-known results of chronic gonorrhoea.

DR. L. E. SCHMIDT: As far as vesiculotomy is concerned I do not see the necessity of this incision he has referred to. If vesiculotomy is carried out, it will be naturally carried out fairly well under observation. In the majority of instances I have proceeded in this way. I do not believe that that point has been brought out. The vesicles are exposed and removed and the common duct ampullae left in place. Now if we can operate and leave the ampullae intact, I cannot see any reason why I am obliged to go in from above and use pressure to bring the vesicle out into the perineal opening. It is perfectly true that in those cases of vesiculitis that are tied down by inflammatory tissue, this procedure may be necessary. If Dr. Belfield recalls, when this society was first organized I showed at different times a complete removal of both vesicles,

leaving the duct intact. Of course, in doing this we are obliged to make this incision and we practically tie off the external iliac, but to simply make a vesiculotomy I see no need for it. In those cases I have treated in recent years I have always done a vasotomy and injected fluids through the vas directly into the urethra.

As Dr. Belfield said and as Dr. Mark brought out, I am quite sure that when this subject was brought forward by Dr. Belfield at one of the meetings of the Urological Society that the point was distinctly made as regards always doing a vasotomy in connection with operations on the epididymis. It is not a question of whether you are going to do an epididymotomy. You certainly should do a vasotomy because those are the cases that demand attention on account of recurrence and the ones that have been seen so frequently.

In doing a vasotomy you make the exposure sufficient so as to allow the duct and ampullae to remain intact. You can expose your vesicles and you can introduce your finger in and they will pop out just the same as if you had an opening there and were obliged to press on them. The vast majority of vesiculotomies that are carried out have the vesicles distended like bunches of grapes which are markedly adherent. If you have to remove a tuberculous vesicle that is bound down by an enormous amount of exudate, there is no doubt but it might be necessary to use the pressure to help enucleate the vesicle.

In regard to vasotomy in general I agree perfectly well with all that has been said, and I think if vasotomy is to be carried out the most refined and simple method should be used. I think Dr. Mark and Dr. Belfield have pointed out that some of the methods carried out for exposition of the vas are entirely unnecessary. I agree entirely with Dr. Belfield's views of putting something in the vas, either gutta serena tissue or something to bring out the vas. If you cannot pull out your vas and see its lumen, you are not in a position to treat from day to day. I am in the habit of injecting as often as I possibly can. If the end of the vas is so exposed that I can inject it, I do it from day to day; I have injected it over a period of fourteen to even twenty-one days. After you inject, you can massage the vesicle and treat it, not necessarily from day to day, but as often as desirable. If I understood what Dr. Herbst said at one of the meetings four weeks ago, he only makes one injection. From his experience he ought to be able to tell whether it is necessary to inject from day to day. If not, I would like to ask what is the objection of doing it from day to day. I am certain that the x-ray shows that this material remains in place for a long period of time. The objection is offered that you have the patient in the hospital so long. Personally, I am certain there is no objection to it.

Now as far as the question of vasotomies in general, I want to say what I said some weeks ago. I do not believe that the bad results that are reported from time to time are due to vasotomy. To be perfectly frank, if you spoke to a good many men who carry out vasotomy, they would tell you that some of the cases are the same as when they started treatment. If you carry out vasotomy on a number of cases, say, and think you are going to cure every case of urethritis, you are going to be disappointed because there are strictures and other complications which keep up the trouble. What I want to say is that in most instances the cases are not properly selected.

DR. HERBST: I wish to mention something that was mentioned before this evening both by Dr. Belfield and by Dr. Mark, namely, acute inflammatory vesiculitis due to the gonococcus and never recognized. Frequently the seminal vesicles are resected for acute purulent discharge coming from the urethra in the acute cases only. We studied about twenty odd cases from a large series of this type. We selected patients who had had a purulent discharge for a period of over six weeks. You must have all seen such cases. I selected these cases and performed vesiculotomies on them, not with the hope of curing them, but simply with the hope of finding out whether the vesicle was not producing most of the pus. I made this report in the Journal of the American Medical Association. Within forty-eight hours after the injection of the vesicles with collargol this discharge had either diminished or disappeared. I am not referring to these as cured cases, but merely to show the part that the seminal vesicles play in the

production of the discharge. I think it did play a part in the case reported by Dr. Belfield.

As for selecting cases for vasotomy, given a patient who comes in with so-called gleet, we exclude other things and we put him on routine treatment. We do this for two reasons, one is that some of these cases are cured. I do not believe that many of them are completely cured. However, this is the general routine that many use and we use in all the cases before we subject the patient to vasotomy. Having failed in this treatment we perform vasotomy. Personally, I do not believe it is necessary to inject the vesicle more than once. If you put 2 or 3 or 4 c.c. of collargol into the vesicles—I mean if the vesicle receives the collargol without any response—we continue to put in the collargol. If we meet with response we wait. You will find that the vesicle will empty and you can put in more. We generally use 30 c.c. We had one case that had a black emission for fifty-nine days.

I do not think it is necessary to frequently perform vasotomy.

I think the ordinary man realizes that when you have a vesicle that does not respond you have one or two things to do—a vesiculotomy or a vasotomy.

As regard to technic, Dr. Mark says we cannot inject the vesicle with a pointed needle. I wish to emphasize this. All these modifications in the operation with the idea of not injuring the vas are merely make-shifts. If one makes a small knife puncture in the vas, he does not make any larger opening than with a needle. If one expects to inject the vas with the point of a needle he is going to get into trouble, because I have tried it and I know. If you put the point of the needle into the vas, you pick up the lining of the vas. This explains why so many of these cases for a long time have swelling of the cord.

DR. BREMERMAN: I would like to emphasize Dr. Mark's little trick of letting out the fluid by pressure in the rectum. I think it is very nice and the very next case I have I am going to try it.

DR. KOLL: Just one point that has not been fully dwelt upon and which I believe is of a great deal of value, that is injection after epididymotomy. I heartily agree with him in exactly what he says. There are certainly cases in which we should resect the epididymis and then inject the vas.

DR. MARK (closing): Mr. President, I am very much gratified with this discussion. The first thing I want to say is that I did not mean in bringing these things out that they were with very few exceptions the best things to use. In the first place, I believe vesiculotomy ought to be done unless we have a distinctly nodular vesicle. I believe most of these so-called fat vesicles will respond to a vasotomy properly done. The other kind are harder to get out unless you are familiar with them. Furthermore, an incision in the longitudinal axis of the vesicle, I believe, is not so good as a transverse incision through the fascia. I believe we get a better exposure. Also, if we are going to take out the vesicle, why not take out the infected vas? If we are dealing with a tuberculous condition, it is essential to take it out. This little trick, if one wants to call it that, is of material help.

I want to agree with Dr. Herbst absolutely about vasotomy and vesectomy. We know that a single injection is all right. There are cases in which another injection is advisable.

In doing an epididymotomy I divide the epididymis down until it actually exposes the tubules, so they roll out and then simply by the use of a blunt probe we clean it out and then we do the epididymotomy.

I want to call attention to another thing; that is, ordinarily in vasotomy I simply use a silkworm-gut up the vas. In the first case in which we tried this method we had an artificial epididymitis almost immediately. In the other cases we have injected the lower end of the vas. I think unless the possibility of regurgitation is kept in mind, you are going to have difficulty.

GREENE COUNTY

The annual meeting of the Greene County Medical Society was held in Roodhouse, December 12, 1919.

After participation in a good dinner the society was called to order by President W. H. Smith at 1:30 p. m. in the dining room of the Roodhouse Hotel.

In the absence of the regular secretary, L. O. Frech was elected secretary pro-tem.

The following officers for the ensuing year were elected: President, E. E. Jouett of Carrollton; vice-president, W. C. Tunison of White Hall; secretary-treasurer, L. O. Frech of White Hall; delegate for two years, L. O. Frech of White Hall; alternate delegate, two years, Howard Burns of Carrollton. W. T. Knox was elected censor for three years to fill the expired term of E. J. Peek and C. R. Thomas, censor for one year, to fill the unexpired term of O. L. Edwards, removed.

Dr. Russell E. Adkins was then introduced to the society and after delivering a lecture on tuberculosis in behalf of the Illinois Tuberculosis Association, held a very interesting and instructive clinic which lasted for two hours and fifteen minutes. Miss Augusta Giller, R. N., of Carrollton, was in charge of the patients during their preparation.

Drs. Krohn of Kane and Gaston of Carrollton were elected members.

After a thorough discussion of the smallpox situation in Greene County the board of censors reported Carrollton as the next place of meeting, Friday, March 12, 1920. Upon motion, the society adjourned at 4:05 p. m. Twelve members and two visitors were present.

L. O. FRECH,
Secretary Pro-tem.

MADISON COUNTY

Our December Meeting

The Madison County Medical Society met at the Y. M. C. A. Building in Alton on December 5, 1919, with President Dr. Chas. R. Kiser in the chair. Thirty-three members were present.

On motion of Dr. Pfeifferberger, the secretary was authorized to purchase 500 Red Cross seals on behalf of the society. On motion, Joseph Berry of Granite City and Robert Goodless of Collinsville were admitted to the Harrison Colony at our expense. Miss Helen A. Heighway read the report of work done in November, which was received and ordered filed. The secretary read his annual report and the treasurer read his report and both were referred to the auditors and found correct. It was ordered that both of these reports be published in *The Madison County Doctor*. Dr. R. D. Luster, as manager of the Red Cross Seals campaign, made a report showing the canvass well started in all parts of the county. On motion, it was suggested that the editor publish in the next issue of our bulletin the ruling of the State Board of Health on reporting of communicable diseases.

The annual election was held, which resulted as follows: President, Dr. F. O. Johnson of Granite City; vice-president, Dr. Eugene F. Wahl of Edwardsville; secretary, Dr. E. W. Fiegenbaum of Edwardsville; treasurer, Dr. J. A. Hirsch of Edwardsville; medico-

legal-member, Dr. M. Pfeifferberger of Alton; member of board of censors, to serve three years, Dr. L. Schreifels of Granite City.

The retiring president in a neat little speech extended his thanks to the members for their co-operation during the year, and expressed his appreciation for many courtesies received. He then introduced the newly-elected president, Dr. F. O. Johnson, who thanked the members for their vote of confidence in placing him as the executive head of the society for the coming year, and pledged his every effort in furthering the best interests of the society.

On motion adjourned to meet in Edwardsville on the first Friday in January, 1920.

ST. CLAIR COUNTY

The annual meeting of the St. Clair County Medical Society was held in the rooms of the Retail Merchants' Association on Thursday, January 8, 1920, at 8:00 p. m., with twenty-three members and two guests present.

Minutes of December meeting as published in the *Bulletin* were approved.

Reports of the secretary and treasurer were read and accepted.

Officers for the year 1920 were elected as follows: H. A. Cables, president; L. D. Applewhite, vice-president; C. W. Lillie, secretary; A. E. Hansing, treasurer; H. M. Voris, T. V. Boyd and A. B. McQuillan, censors; C. A. W. Zimmerman, medico-legal advisor.

Drs. Eugene McQuillan and W. Kenneth Brown of East St. Louis and Dr. Edmund Bechtold of Belleville were elected to membership.

The proposed amendments to constitution, as published in the *Bulletin* for January, were presented, discussed, amended by striking out Section 6, and changing the word "shall" in Section 5 to the word "may" and adopted.

C. W. LILLIE, Secretary.

SEWAGE-DISPOSAL FOR DECATUR

The Division of Sanitation has approved plans for an intercepting sewerage system at Decatur which will collect sewage from the outlet and which will entail an expense of approximately \$1,000,000. The necessity for this plan arises from the fact that the sewerage system of Decatur has been constructed without definite plan. A similar unsatisfactory development has been carried out in Springfield.

FUND FOR CRIPPLED CHILDREN

A fund of \$10,000 has been raised at Freeport, Stephenson County, for the support of a clinic for crippled children, and for public welfare work. The clinic for crippled children is operated under the supervision of Dr. C. W. East of the Division of Child Welfare and Public Health Nursing, State Department of Public Health.

NEW YORK FORMS GUILD TO FIGHT HEALTH INSURANCE

Through the presidents and secretaries of their organization, the Medical, Dental and Pharmaceutical Societies of Kings County have formed a guild known as the Professional Guild of Kings County, which has for its object the presentation of a scientific plan for welding of doctors, dentists and pharmacists of the State of New York into a "compact working unit with the moral courage to oppose such pernicious legislation as that embodied in the Davenport-Donahue bill providing for compulsory health insurance." The specific purposes of the organization are: (1) Unification of the professions. (2) The formulation of legislation especially along lines of public health. (3) The education of the public in matters of public health legislation and co-operation with other civic bodies along lines of public improvement. The plan contemplates the establishment of a similar organization in New York County and then the extension of the organization to the various county medical, dental and pharmaceutical societies.

THE NEWER CONCEPTION OF TUBERCULOSIS

Krause, of the Johns Hopkins Medical School, in an address delivered before the recent New Jersey Joint Conference on Tuberculosis, attempts a review of the anti-tuberculosis movement and indicates how our measures of prevention and control should be supplemented and enlarged so as to square with the shifting point of view that the newer knowledge of the disease of the last ten years has brought us.

Not all the diminution in the tuberculosis mortality rate may be ascribed to our intentional efforts. Much is undoubtedly due to the broad social and economic movements that have brought about better living conditions. Since the application of the Pirquet test we have learned that tuberculosis infection is practically universal. It is therefore at least questionable whether efforts at prevention and control should be too largely concentrated on the prevention of infection. Infection, of itself, is of comparatively minor importance. It is the development of infection into clinical disease, into manifest tuberculosis—that we are really concerned with and should make every effort to prevent.

Krause pleads for a better appreciation of this phase of the situation and asks for renewed effort for the expenditure of money without let-up, for what amounts to the unremitting and universal education of physicians and laymen in the truths of tuberculosis, and for a broadening and intensification of the work of the National Tuberculosis Association. He concludes:

"Nor is there room in the anti-tuberculosis movement for a single note of discouragement. The pessimists among us can be only those who are deficient in grasp and breaths. Civilization and tuberculosis are contemporaneous; the number of the tuberculosis and the number of civilized beings are almost coequal;

therefore, to despair of tuberculosis is to despair of civilization. A graft that is so much a part of us as is the development of our ethical sense cannot be lopped off in a day; but it can be kept from flowering and bearing fruit. And until we can wage direct warfare on the germ, to keep it in the seed should be our main purpose."

Personals

Dr. Frank M. Mason has removed from Rossville to Danville.

Dr. E. H. Trippel of O'Fallon is said to have contracted smallpox from a patient.

Dr. W. S. Taylor of Ashland was painfully injured in an auto collision last month.

Dr. F. N. A. Hoffman of Effingham was slugged and robbed in his office by a fake patient and another thug.

Dr. O. Alfred Olson, Rockford, is reported to have been arrested in a raid on communists in Rockford, January 8.

Captain B. S. Hutchison has resigned from the Canadian Army to take up practice of medicine and surgery in Cairo.

Dr. A. Joseph Shonkwiler of Paris has resumed practice after an extended course of eye, ear, nose and throat work at the New York Post Graduate Hospital.

When Dr. E. D. Converse's office was raided by federal narcotic sleuths in Chicago, he is said to have protested: "I'm only prescribing freckle cures." Have you tried the cure?

Dr. J. N. Nelms of Taylorville has been nominated a life member of the U. S. Good Roads Association by Governor Lowden in recognition of his efficient promotion of the movement.

It is reported that citizens of Oakland presented Dr. J. C. Russel with a Ford runabout. It appears that the Doctor has been doing them good and they are returning the compliment.

Dr. Dudley B. Reid of the University of Chicago was elected president of the National Council of the American Physical Education Association at its annual meeting in New York City, January 1.

The staff of Passavant Hospital, Jacksonville, was organized last month by the election of Dr.

H. C. Woltman, president; Dr. T. O. Hardesty, secretary; Drs. Walter L. Frank and David Reed, members of medical board; Dr. A. S. Adams, trustee for three years.

A "Dr." James H. Honan of the University of Chicago is alleged to have denounced coffee as a poison, tea as a shatterer of the nerves and water as responsible for increased blood pressure. Alas and eke alack for the good old days when one did not have to drink such deadly stuff!

A committee of the Oak Park Physicians' Club, consisting of Drs. Arthur M. Corwin, Harry J. Stewart, Leslie W. Beebe and Clarence E. Hemingway, January 15, cleared Dr. Thomas E. Roberts of charges that he had received remuneration for services as director of the American Red Cross Bureau in Oak Park.

Drs. Casey A. Wood, Frank Billings and Harry E. Mock are collaborating in the preparation of a medical history of the war which will be very comprehensive and may extend to twenty volumes. The first volume, on hospitals, written by Dr. Wood, is ready for the press. Drs. Mock and Billings have the subject of rehabilitation of disabled soldiers under way.

The Kewanee Public Health Association organized a medical staff at a dinner, January 8. Dr. J. H. Oliver was elected chairman and Dr. Chas. Coffin, secretary; Drs. G. H. Hoffman, Wm. D. Hohmann and P. J. McDermott, members of board. Dr. McDermott promised the co-operation of the Henry County Medical Society and Dr. Coffin spoke for the Kewanee Physicians' Club.

By an unfortunate and at present unaccountable error a personal appeared in the January JOURNAL to the effect that Dr. Harold Swonberg had located in Chicago. Dr. Swonberg is located at 731 Hampshire street, Quincy, where he is continuing the practice of Roentgenology, in which he specialized in the U. S. General Hospitals at Fort McPherson and Fort Sheridan.

Dr. Roger Adams of the department of chemistry, University of Illinois, has received a grant of \$3,500 from the Social Hygiene Board of Washington, D. C., for research work on new organic arsenic and mercury compounds of possible therapeutic value, especially on specific disease of the nervous system. Prof. W. L. Lewis

of Northwestern and L. W. Jones of Minnesota are collaborating with him.

News Notes

—Additional buildings which have been begun at the Alton State Hospital will represent an investment of \$500,000 and will increase the capacity of the institution from 700 to 1,300.

—Announcement is made that a United States Public Health Hospital is to be established at Great Lakes, the barracks of naval units No. 19 and No. 20 being employed for this purpose, after remodeling.

—At a meeting of the stock yards branch of the Chicago Medical Society, January 15, the activities of the sanitary district as a function in the health of Chicago were discussed by Dr. Willis O. Nance, president of the sanitary district.

—On January 17 the Society of Medical History was addressed by Col. Casey A. Wood on the subject, "William Bailey, Author of the First Ophthalmic Treatise in English"; by Fielding H. Garrison, Lieut.-Col., M. C., U. S. Army, on "Medical Men and Music," and some remarks on the medical history of the war.

—At the twenty-eighth annual meeting of the Chicago Ophthalmological Society, held in Chicago January 19, the following officers were elected: President, Dr. Alfred N. Murray, Chicago; vice-president, Dr. William R. Fringer, Rockford; secretary, Dr. Francis Lane, Chicago, and counselor, Dr. Ephraim K. Findley, Chicago.

—The Stephenson County Medical Society is said to have taken a hot wallop at the free advertising propensities of various and sundry members last month. If all county societies would report their proceedings promptly we would not depend on a prejudiced and sometimes unfriendly lay press for news items.

—Improvements costing about \$700,000 are being made at St. John's Hospital Farm, near Riverton. The next building to be erected will be for crippled children. Other structures included in the plans are a home for mentally deficient girls, a hospital for those suffering from nervous diseases and a building to be used for convalescents coming from St. John's Hospital in Springfield.

—The Rogers Park Physicians' Club has adopted the following minimum fee table:

Day visits, 7 a. m. to 6 p. m.....	\$ 3.00
Evening visit, 6 p. m. to 10 p. m.....	4.00
Night visit, 10 p. m. to 7 a. m.....	6.00
Laboratory examinations	2.00
Telephone consultations	1.00
Insurance papers, each.....	1.00
Office consultation	2.00
Obstetrics (normal delivery).....	50.00
Additional patients at home, each.....	2.00

—At a meeting, January 17, a five-year program of expansion for the Wesley Memorial Hospital became assured. This involves the addition of \$10,000,000 worth of new buildings and the raising of an endowment fund of from \$10,000,000 to \$15,000,000. Sufficient funds have already been pledged to insure construction of the first of the four new buildings desired, which will be utilized as an addition to the nurses' home. The second building will be a new section to the hospital proper which will add 1,200 beds to its capacity; a building for contagious diseases will next be erected and lastly a new power plant.

—At the annual meeting of the Winnebago County Medical Society, January 13, Dr. E. W. Goembel was elected president; Dr. C. M. Ranseen, vice-president; Dr. E. L. Mertz, secretary and treasurer; Dr. S. R. Catlin, censor; Dr. E. J. Tuite, delegate to state convention; Dr. S. R. Penniman, alternate; Dr. D. Lichty, member medical legal advisory board. The society will entertain the Illinois State Medical Society in Rockford in June. The local committee in charge of the annual meeting is: Drs. Goembel, Penniman, D. R. Day, Ranseen and Tuite. The physicians expect the state meeting to be fully as large as the tri-state convention that was held there last fall.

—The division of social hygiene, state department of public health, has recently issued a report of known cases of venereal diseases in Illinois for the year ending June 30, 1919. The total number of cases reported is 11,915, with about 5,000 additional cases treated in the several clinics conducted by the state. There were 7,756 cases reported among males with 502 cases of syphilis, 5,752 cases of gonorrhea and 474 cases of chancroid. Total number of women in-

fectured was 4,159, of whom 1,808 were victims of syphilis, 2,342 were suffering from gonorrhea and nine from chancroid. Six hundred and fifty-six of these victims of venereal disease were employed in the handling of foodstuffs.

—The Madison County Anti-Tuberculosis Association held a clinical tuberculosis meeting at the rooms of the Y. M. C. A., at Alton, January 9, beginning at 10:30 o'clock in the morning and continuing all day.

The clinic was conducted by Dr. Geo. T. Palmer, of Springfield, president of the Illinois Tuberculosis Society, assisted by Dr. R. E. Adkins, of Springfield, who is medical director of the state field service, Dr. O. W. McMichael, and Dr. Robert E. Hayes, of Chicago.

The following subjects were presented for discussion: "Early Diagnosis of Pulmonary Tuberculosis," "Case Histories of the Tuberculous," "Relationship of the Physician to the Tuberculous Patient," "Possibilities of Home Care of the Tuberculous Patient Without Institutional Training."

HIGH COST

It's hard to salt a nickel, to save a picayune; I have to buy a pickle, and then again a prune; the figures such things cost upset my apple cart; they stagger and exhaust me and make me sick at heart. All men are profiteering, it surely seems to me, when shopward I go steering, to buy a pound of tea; to buy a pair of trousers, a birdcage or a hat; and money mad carousers are doubtless getting fat. We men who work for wages are shy of all recourse; we fly in futile rages and clamor till we're hoarse; but still the profiteering goes forward with a will, and daily we are nearing the poorhouse on the hill. But let's be calm and steady and can our wild remarks; our Uncle's getting ready to swat the robber sharks. Our Uncle's slow as blazes, but take this to your heart. All kinds of smoke he raises, when once he makes a start. And we who toil and suffer may yet survive to see the profiteering duffer suspended from a tree. Or, if that fate's not his'n, as being too severe, no doubt he'll go to prison, and stay, year after year. The profiteers and hoarders and other soulless men will be the nation's boarders in some foul scented pen. Our Uncle Sam moves slowly, but he has giant thews; his wrath is hot and holy, and spikes are in his shoes.

—Dr. Casey A. Wood, the well known ophthalmologist of Chicago, has decided to retire from the practice of his specialty. The Chicago Ophthalmological Society gave a reception and banquet in honor of Dr. Wood on the occasion of

its twenty-eighth annual meeting, January 19, at the Hotel La Salle. Dr. William L. Noble presided as toastmaster, and the following responses to toasts were made: "Dr. Wood as the Ophthalmologist," by Dr. Lucien Howe, Buffalo; "Dr. Wood as Writer and Editor," by Fielding H. Garrison, Lieut.-Col., M. C., U. S. Army; "Dr. Wood as Professor of Ophthalmology," by Dr. Harold Gifford, Omaha; "Dr. Wood as Military Surgeon," by Dr. Walter P. Parker, Detroit; "Dr. Wood as Ornithologist and Comparative Anatomist," by Prof. Henry B. Ward of the University of Illinois. Brig.-Gen. H. S. Birkett, Montreal, dean of the Medical Faculty of McGill University, brought greetings from that institution. The society voted to confer honorary membership on Dr. Wood and the certificate was formally presented by Dr. Willis O. Nance. Dr. Heman H. Brown then presented Dr. Wood with a richly bound book containing the autographs of all persons present at the banquet. Dr. Wood left for his new home in Palo Alto, Calif., January 20, and expects to devote his energies to researches in comparative anatomy, working along special lines.

Marriages

A. W. McCALLY, Dayton, Ohio, to Miss Edna Fiegenbaum of Edwardsville, Christmas Day.

BELLENDEN SEYMOUR HUTCHIESON, V. C., Capt. M. C., Cairo, Ill., to Miss Frances Young of Kentville, Nova Scotia, December 1.

WILLIAM EUGENE KENDALL, Oak Park, Ill., to Miss Jessie May Thorpe of El Paso, Ill., December 26.

ROSWELL TALMADGE PETTIT, Ottawa, Ill., to Miss Dorothy Blatchford of Oak Park, Ill., January 16.

FRED LOWE SOPER, Sao Paulo, Brazil, formerly of Chicago, to Miss Juliet Snider of Fort Scott, Kan., December 27.

Deaths

FRANK DUNCAN, Paxton, Ill.; Hahnemann Medical College, Chicago, 1875; aged 71; died January 1.

ALMANZER RONELSON HOWARD, Canton, Ill.; Eclectic Medical Institute, Cincinnati, 1878; aged 59; died December 23.

CARL HENRY GOLBECK, Chicago; University of Illinois, Chicago, 1913; aged 29; died December 21, from acute endocarditis.

STANLEY WHELOCK, Quincy, Ill.; Kentucky School of Medicine, Louisville, 1893; aged 48; died November 22 from endocarditis.

JENNIE LIND PHILLIPS THOMPSON, Chicago; University of Illinois, Chicago, 1898; aged 51; died January 4 from cerebral hemorrhage.

FRANK A. MAGUY, Chicago; Hahnemann Medical College, Chicago, 1890; aged 61; a Fellow A. M. A.; died December 29 from bronchial pneumonia.

EDWIN ALPHONSE CARPENTER, Baileyville, Ill.; Rush Medical College, 1875; aged 73; a practitioner for 52 years; a veteran of the Civil War; died December 31.

THOMAS M. DROMGOLD, Ottawa, Ill.; Eclectic Medical Institute, Cincinnati, 1878; aged 71; in Ryburn Hospital, Ottawa, December 21, from cerebral hemorrhage.

FRANK MERLE DRYDEN, Chicago; University of Illinois, Chicago, 1919; aged 30; died in Wesley Memorial Hospital, Chicago, December 28, from septicemia following a carbuncle.

FRANCIS MARION ELLIOTT, Aurora, Ill.; Rush Medical College, 1869; aged 75; a member of the staff of the Aurora City Hospital and St. Charles Hospital, Aurora; died December 9.

SEPHAS L. CARROLL, Taylorville, Ill.; Detroit Medical College, 1870; aged 83; died in St. Vincent's Hospital, Taylorville, December 26, a few hours after an operation for the removal of stones of the bladder.

ALBERT CHENOWETH, Bushnell, Ill.; Rush Medical College, 1872; aged 71; formerly a surgeon in the Army, serving with General Reno at the time of the Custer massacre; died January 2, from cerebral hemorrhage.

MARY CAROLINE HOLLISTER, Chicago; Northwestern University Women's Medical School, Chicago, 1882; aged 59; a member of the Illinois State Medical Society; a specialist on diseases of the eye and ear; died at her winter home, Lake Worth, Fla., January 2.

JOHN HOUSTON M. CLINCH, Danville, Ill.; University of Oregon, Portland, 1896; a Fellow A. M. A.; a member of the medical staff of St. Elizabeth's Hospital; while driving in his automobile over a grade crossing in Danville, December 24, was struck by a train and instantly killed.

CHARLES PHILIP PINCKARD, Chicago; Harvard University Medical School, 1889; aged 55; a member of the Illinois State Medical Society; a specialist in diseases of the eye, and one of the founders of the Chicago Ophthalmological Society; attending ophthalmologist to Michael Reese Hospital and the dispensary of that institution, and to the Home for Crippled Children; died January 17 from heart disease.

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Original Articles

ETIOLOGY OF AND PROPHYLACTIC INOCULATION IN INFLUENZA*

E. C. ROSENOW, M. D.,
The Mayo Foundation.
ROCHESTER, MINNESOTA

When influenza appeared in the autumn of 1918 it became apparent to everyone that the infection was more severe than the more common types of infection which had been considered influenza. The intense cyanosis, dyspnea, the extreme prostration and marked leukopenia are clinical signs so pronounced that all of us, I am sure, have vivid recollections of them. The tendency to acute hemorrhagic edema, with bloody expectoration, the great tendency to massive involvement of the lung and the huge size of the lung found by pathologists after death, constitute a picture which distinguishes this epidemic from the ordinary.

Just as the clinical picture was peculiar, so the bacteriologic findings in these cases were found to be peculiar. The sputum from the very onset of the disease contained unusually large numbers of green-producing streptococci which differed from the normal streptococcus viridans flora that persons normally harbor. The colonies were larger, more moist, and produced more green on blood-agar plates than the ordinary *Streptococcus viridans*. The influenza bacillus was found present in the beginning of the epidemic in considerable numbers, and in some instances in large numbers, but was rarely found later.

The findings in cases of acute deaths were also peculiar. The blood during life usually was found to be sterile by ordinary blood culture methods. The blood after death was often found sterile and the number of microorganisms in the lung exudate compared with pneumococci in lobar pneumonia was relatively small.

It was thought that injections of sputum directly or other material from the secretions of cases of influenza might throw considerable light on the etiologic agent; moreover, it might be possible in this way to determine which one of a series of organisms more or less constantly present is the virulent one, and which tends to cause death in animals. This was done, and it was found that animals often died within twenty-four or forty-eight hours from intraperitoneal injections of a very small amount of sputum. Death was associated almost always with a form of green-producing streptococcus or pneumococcus. When pneumococci from lobar pneumonia are injected intraperitoneally in animals they die from pneumococemia. The blood contains numerous microorganisms. In these cases the animals died with peritonitis, not usually serofibrinous, more often hemorrhagic, and the number of microorganisms in the animals' blood after death was relatively small as compared with the number following injection of pneumococci. It was found, moreover, that the strains from influenza tended to produce hemorrhage, edema of the lung and broncho-pneumonia, following intraperitoneal injection.

I wish to show you a few of these peculiarities and some of the results of prophylactic inoculation with a mixed vaccine by means of lantern slides.*

The incidence of influenza in persons inoculated was about one-third as great, and the incidence and death from pneumonia about one-fifth as great as among the uninoculated. The mortality in pregnant women among the vaccinated was twelve per cent., as compared with 20 per cent. among the unvaccinated.

As a result of our study of the sputum and exudates after death, we can say that in influenza there is present a green-producing streptococcus which appears to bear specific relationship.

*Read before the Tri-State District Medical Society, Rockford, Illinois, September, 1919.

*Here Dr. Rosenow showed a series of lantern slides and pointed out the peculiarities previously referred to and tables indicating results from vaccinations.

The monovalent serum developed in the horse has the power of agglutinating practically all of the strains. Single agglutinable cultures absorb the specific agglutinins from this serum for practically all of the strains. By means of a vaccine containing type pneumococci a high percentage of the freshly isolated strains having this peculiar relationship together with pneumococci of Group IV, hemolytic streptococci, and staphylococci, it appears possible to rob influenza of some of its terrors.

I regret to say that we shall be unable to supply the vaccine for influenza and pneumonia this year. The demand already is large and would no doubt grow to proportions which would make it quite impossible for us to supply the vaccine in the event that influenza again becomes epidemic.

The formula of the vaccine, aside from type pneumococci, should be made to correspond roughly with the bacterial flora at hand in different parts of the country, although a study of the results obtained last year indicates that special adjustment is, in general, not necessary. The strains should be incorporated as soon after isolation as practicable. Bacteriologic laboratories in various communities, the biologic manufacturers and state and municipal boards of health should supply properly prepared vaccines for prophylactic inoculation. The oil vaccine, it seems to me, should be preferred, since the dose can be made larger with less constitutional reaction, owing to the slow absorption. Moreover, the method for the preparation of lipovaccines, which Osterberg and I have developed, is quite simple. (*Jour. Am. Med. Assn.*, 1919, lxxiii, 87-91.) During our study of prophylactic inoculation with a saline vaccine, it became clear that the immunity conferred diminishes perceptibly after a period of six weeks to two months, and hence indicates that revaccination at the end of this time is desirable, which can be done more readily with the oil vaccine, since only one dose at a time is necessary.

DISCUSSION

DR. D. R. CONNELL (Beloit, Wisc.): I would like to ask Dr. Rosenow where one could secure some of this serum. I suppose he will answer, "At the state laboratory of Wisconsin, at Madison." If I recollect aright, the state laboratory at Madison said that the serum was useless, and about three months ago they told us it wouldn't be any use to try to get it there.

From Dr. Rosenow's talk, it sounds all right, and

I would like to know where to get it. The things in the drug stores certainly are not any good.

DR. ROSENOW: That question has been under discussion for a number of weeks. As the demand is now looming up for it, it will be physically impossible to make it all at one place. The logical procedure is to have it made in the various localities where the disease occurs. To my mind, it is just as logical to immunize persons temporarily with pneumococci and streptococci as to immunize them in the case of typhoid. According to statistics, the height of influenza lasts from about six weeks to two months.

The matter of where to get the vaccine is most perplexing. Most State Boards of Health have done very little toward developing a vaccine. As far as I know, there has been really no intensive effort to prove whether it can be made in the localities where it is needed.

DR. SOLOMON SOLIS COHEN (Philadelphia): The question seems to be rather important. I think that Dr. Rosenow's work and the demonstration that he has brought before this Society is convincing of the necessity for the widespread use of properly prepared bacterial preventives against influenza.

In Dr. Rosenow's charts, it appears that in some cases the persons who had been vaccinated twice were perhaps more susceptible to the infection than the persons who had only been vaccinated once, while those who had been vaccinated three times appeared to have recovered from the temporary depression caused by two vaccinations. I would like to question Dr. Rosenow on that matter.

DR. ROSENOW: Many physicians in their desperation used the vaccine in the treatment of the disease. If there was actually a real negative phase in the dosage that was used, it would seem that the person who was vaccinated surely would be the one who would show bad effects. Answers to questionnaires from a large number of physicians who used the vaccine showed, with one or two exceptions only, that no one in the whole number believed that there was a negative phase. Those who in their desperation used the vaccine in the treatment of the disease believed that it did good even then. That, of course, we don't know. The epidemiologist says with regard to analysis, "How is it possible that you can do any person any possible good with a dead germ when he is infected with a living one?" It brings up the whole question of the use of vaccines in acute infections.

In cases of influenza, there is first the attack, which runs for three, four, or five days, and then the patient either remains well or develops the much-dreaded pneumonia. Suppose that after three or four days the vaccine should be given, particularly if the temperature is still high. It is common that there is a prompt drop in the temperature. Many persons to whom the vaccine was given daily expressed themselves as feeling better; the aches and pains disappeared for a period after the vaccine was given.

Recently there have been some studies that might explain that this apparent improvement soon after

giving a vaccine may rest on sound basis. As the person is infected for those three or four days, certain antibodies might be formed but be bound by the cells and not appear in the circulating blood. Therefore, when an injection is given, this immediate drop in temperature, according to Larson's work, may be due to the throwing into the circulation of these bound antibodies liberated by the injection. But the best time to use the vaccine is before the person is sick.

EARLY SYMPTOMS OF CANCER.*

JOSEPH C. BLOODGOOD, M. D.,
BALTIMORE, MD.

This is the first opportunity I have had to answer your letter about your proposed article on current events. The most important message that I am anxious to convey, both to the general medical profession and the general public, is that information will cure cancer and will bring all diseases under the observation and treatment of the medical profession at a period when there is the best opportunity either to prevent the development of a hopeless disease, or to cure it before it has become incurable.

My observations force the conclusion that ignorance as to the significance of the early symptoms of disease rather than the fear of surgery is the chief cause of delay.

Every woman over twenty-five years of age should know that a lump in the breast is just as acute a disease as an intense pain in the region of the appendix. She should be informed that, if she seeks the advice of a good doctor immediately after the lump is felt, she will be rewarded. In a number of instances the lump that she feels will not be a lump, and the experienced physician will be able to tell her that operation is not indicated. If it proves to be a distinct lump an immediate operation will be advised.

The woman who seeks advice early for a lump and has an immediate operation by an experienced surgeon increases the probabilities of an operation consisting of the removal of the lump only, but should the lump prove to be the early stage of cancer, she will lose her breast, but with a large chance—over ninety per cent.—of an ultimate cure. The longer the delay after the lump is felt, the greater the probability of the loss of the breast and the less the chance of a permanent cure.

Every married woman who has borne children should know that she is running a greater chance of cancer of the uterus than a woman who has not borne children. Her protection against cancer depends upon the information that she should seek the advice of a doctor the moment she observes anything unusual in the discharge which she has observed in her former menstrual periods, or if she observes any discharge between periods, or after the menopause. Such an irregularity by no means indicates cancer, but it does indicate a careful examination by a competent gynecologist.

Every adult should know that any sensation observed in the region of the abdomen below the diaphragm which might be called "indigestion," pain, belching of gas, discomfort after eating; any change in the normal time and character of the stool, any blood in the stool, nausea or vomiting, should mean the immediate consultation of a physician and not treatment, but a thorough examination. Such symptoms are by no means signs of cancer of the stomach or intestines, but we know that delay is dangerous. The majority of the public delay, and when they do seek the advice of a physician, many add to the period of waiting by giving treatment without a thorough examination.

Every adult, especially men, should know that the appearance on the skin or mucous membrane of the mouth of any kind of an area differing from the normal skin or mucous membrane such as a wart, an ulcer, an unhealed wound, is an abnormality which, if left alone, may change into cancer. I am confident that cancer of the skin and oral cavity will practically disappear if the public is given this information in such a way that it will be understood and acted upon.

The medical profession must educate itself in the early recognition of these little lesions of the skin and mucous membrane and their proper treatment.

The profession as a whole has much to learn on the proper excision of such areas with the knife, their removal with the cautery and when not to try x-ray and radium.

Every adult male who smokes must know the added danger he runs of cancer of the oral cavity, lip, tongue and mucous membrane of the mouth.

Every individual should understand the importance of keeping the mouth clean and seeing

*Read by Dr. Wm. B. Peck, Freeport, Illinois, at the meeting of the Jo Daviess County Medical Society, Nov. 13, 1919.

a dentist from time to time. This oral sepsis and the care of the teeth are much more important to smokers.

The profession should know that when a smoker comes to them because of a painful, or changed, area in the mucous membrane of the mouth, that the most important thing to do is to emphasize that tobacco in any form must be discontinued at once and that the teeth should be put in perfect order. Now if the area does not quickly subside it should be completely excised with the knife or cautery.

Every parent and every adult male or female should be informed that pain, tenderness, swelling, localized to a bone or joint or a limp, or loss of function of an arm or leg suggests some trouble in the bone or joint, and the most important thing to do first is to have an x-ray examination. Only in this way will tuberculosis, osteomyelitis and bone tumors come under observation when cures can be accomplished not only in greater numbers, but with less, little or no mutilation.

The profession throughout the country must be made to realize that a correct diagnosis rests upon the easily obtained data as well as upon laboratory tests. There must be a carefully taken clinical history and a painstaking thorough physical examination as well as the necessary laboratory tests. The former—the clinical history and examination—are frequently neglected.

Each doctor must be convinced that the time for practicing medicine alone, even in rural districts, has passed. It is impossible for one man to make a complete investigation. Doctors must group themselves in order to give their patients the benefits of modern diagnostic methods and the better interpretation of men specializing in certain groups of diseases, rather than attempting to become proficient in all of them.

Your Tri-State Medical Society has a distinct place among the societies of this country, and its great function is not only teaching its members, but the public as well.

It is to be remembered that the oldest good physician was both a teacher and a healer.

Non-use leads to loss of function. The disappearance of the old family physician and the increasing number of specialists has been associated with the non-use of this teaching function. Every physician, whether practitioner or specialist, should feel the responsibility of teaching those with whom he comes in contact. The nurse must

also be instructed to become a teacher among those for whom she cares in sickness and their families. Every hospital throughout the country can be developed into a teaching center.

We have today plenty of information about which all of the medical profession will agree on preventive medicine, on personal and public hygiene, on the importance of county, city and state public health departments; on the early symptoms and signs of disease. But we must not leave to the government and to national and state medical societies and to the press the entire responsibility of getting this information in proper form to the public. Each physician and each graduate nurse must teach those with whom they come in contact.

Today, more than ever before, the individual and the family need a competent medical adviser.

SOME LESSONS FROM MY FIRST 100 GALL BLADDER OPERATIONS IN MY OWN CLINIC*

W. F. GRINSTEAD, M. D.,
CAIRO, ILL.

Most gall-bladder operations are done for gall-stone disease. Gall stones are the product of infection of the gall bladder. They are composed mainly of cholesterin and bile salts (lime salts). These substances are cemented together by an abnormal mucus poured out by cholecystitis. If the lime salts are abundant the x-ray will show them plainly. If the lime salts are scanty the stones make no shadow. The result is that our roentgenologists are able to show us about 50 per cent of gall stones which actually exist in the gall bladder. This fact induced the great John B. Deaver to declare at a recent meeting of the American College of Surgeons that he had ceased to have roentgenograms made for patients whose clinical symptoms indicated the presence of gall stones. If the x-ray failed to show stones the patients would not accept operation, which was their only salvation. I heard him make this statement in the presence of several hundred of the leading surgeons of the United States and Canada, among whom sat a number of distinguished surgeons from Europe.

Just how the infection reaches the gall bladder

*Read before the 45th annual meeting of the Southern Illinois District Medical Society at East St. Louis, Illinois, November 7, 1919.

to start the inflammation precedent to cholelithiasis may not be satisfactorily established, but the belief is generally accepted that microbes are gathered up from the *prima via* by the portal system and are filtered through the liver into the gall bladder with the bile. A subacute inflammation of the mucous membrane of the alimentary tract supplies the bacteria. The bacillus typhosis and the colon bacillus have been shown in the gall bladder in cholecystitis. In more than 20 per cent of victims of gall stone disease a history of typhoid fever can be traced. Whether they migrated through the common and cystic ducts or were filtered from the blood stream nobody knows positively.

When we observe the daily posting for operation of gall stone patients at the large clinics, it seems unbelievable that the disease was first treated surgically within the lifetime of surgeons yet in the harness. Nevertheless, it is a fact. It was six centuries, almost, from the first recorded observation of gall stones in the medical literature to the first operation for the cure of gall stone disease. The first observation recorded was by an Italian physician who resided at Padua, named Foligno, and who died from the "black death" in 1348. To American surgery belongs the honor of doing the first operation for its relief. Samuel D. Gross, in his book consisting of two large volumes published in 1882, gives this credit to our own great Marion Sims in 1878. The American Text-Book of Surgery, published in 1892, gives the credit to John S. Bobbs of Indianapolis in 1867; but states that the operation was established as a practical surgical procedure by Sims. Gould's Medical Dictionary describes Bobbs' operation for cholecystotomy in the following language: "The gall bladder is incised, and after the removal of calculi is closed with one suture." Just the year before Sims placed the operation on a practical basis I received my diploma from the Medical Department of Vanderbilt University; but I never saw my Professor of Surgery touch a gall bladder, yet he was big enough in his profession to be elected president of the American Medical Association a few years later. As a confession of my own stupidity I am going to admit that I never undertook to operate for gall stones until 1903. I had served my hospital internship after finishing at Vanderbilt; had later taken a semester in London, when T. Pickering Pick

was chief of staff at old St. George's Hospital Medical School, where he worked 40 years and got the data for his standard book on surgery.

If you will pardon the digression I believe you will be interested to recall the facts that it was here at St. George's that Henry Gray wrote the greatest book that was ever published on anatomy; Timothy Holmes wrote his book on surgery; Brudenell Carter wrote his book on ophthalmology and the great John Hunter died on the front steps in a paroxysm of angina pectoris. Sir Benjamin Brodie here wrote his greatest work: "On the Pathology and Surgery of Diseases of the Joints," and of him it was said: "His vocation was more to heal limbs than to remove them." Even here I did not see an operation for gall stones. Later I took the spring course in surgery at the Royal Infirmary, Edinburgh, Scotland, where Thomas Annandale, a classmate of Lord Lister, was chief of staff, but I did not see an operation for gall stones.

In 1903 I did my first gall stone operation and the patient is now living within five miles of Cairo, in good health, and I have with me today the only stone he had in his gall bladder. It is the greatest curiosity I ever saw in the gall stone line. I am sure you will be interested to look at it. In the autumn of the same year I prepared a paper for the Southern Illinois Medical Association, subject, "An Unique and Agonizing Gall Stone," in which I reported this case and with which I exhibited this stone. It is as complete a triangular pyramid as an artist could mould and with prongs half an inch long. Undoubtedly, in the violent colics this patient suffered, a horn of the pyramid entered the cystic duct and the contractions of the gall bladder in an effort to expel it, caused the other horns to bore into the mucous membrane. The next meeting of the Southern Illinois Medical Association wired me a message of condolence. I was on my back in hospital with a row of stitches in my own abdomen, closing an incision through which some stones had been removed from my common duct. This experience caused me to become quite familiar with the subject of gall stone disease. It taught me to recognize the disease when I saw it. Formerly I had many cases of cramp colic and gastralgia and used many words in explaining to my patients how certain foods and fermentations produced irritations, great pain and sometimes nausea and vomiting. I was less

wordy in dilating on those attacks which came when the stomach was empty, sometimes before breakfast. Now I don't have any more cases of gastralgia. I have learned to recognize symptoms which are plain as letters on a box car. I can now understand why it took six centuries after gall stones were observed for medical men to learn that they produced symptoms. As usual, we have now gone to the other extreme. We are diagnosing gall stones that are not there. We are operating for gall stones, when, as society ladies say, they are "not in." We hedge by saying cholecystitis and drain healthy gall bladders to get by. I have great admiration for the man who refuses to open a gall bladder when he discovers it to be healthy, when, in other words, he discovers his mistake. The patient has already paid penalty enough by having his belly opened. The educated, trained surgeon rarely makes this mistake, and when he does he usually finds the cause of the symptoms that led him astray by making diligent search of the entire abdominal cavity, and cures his patient in spite of his blunder. He pulls up the stomach and duodenum and runs them under his eyes and through his fingers to detect ulcer. He palpates the right kidney to learn if it is loose or abnormal in size or consistence. He pulls up the cecum and inspects the appendix. If a female, he may enlarge his incision, introduce the hand and explore her pelvis and determine the condition of her uterus and adnexæ. Even with all this exploration he may not find satisfactory explanation of symptoms. What must he do? The answer is, the best thing for the patient and not the best thing for the surgeon. We have no right to make the confiding patient responsible for our ignorance and incompetence.

This brings us to the consideration of that class of neurotics with abdominal crises. I wish every man in America who attempts serious surgery, and especially those "near surgeons" and "commercial operators," would read that splendid paper presented at the June, 1918, meeting of the A. M. A. in Chicago and published in *The Journal A. M. A.* for July 13, 1918, by Dr. F. X. Dercum of Philadelphia. Let me quote just one paragraph:

Far more important are the various local pains of hysteria which time and again more or less closely simulate organic disease. I refer to the so-called painful stigmata. They are, as is well known, among the most frequent of all the phenomena of hysteria.

In spite of the fact that their nature and significance have long been recognized they still lead, with great frequency, to surgical interference. So much so is this the fact that I can truthfully say that I rarely have a case of hysteria admitted to my wards in which, on exposing the abdomen, I do not find the latter revealing scars of one, and often of many and repeated operations. Hysterical painful areas are very commonly found above the groins, over the iliac fossae and over various portions of the abdomen. It is a constantly recurring experience in my service to find the scars of operations for appendicitis, for all kinds of pelvic conditions, the scars of drainage of the gall bladder, of operations for visceral ptosis, and especially for operations purely exploratory, in their character. Repeatedly it has been my experience to receive patients on whom a first operation had been performed with perhaps removal of the right ovary, then a second operation for the removal of the left ovary, then a hysterectomy and finally other procedures, such as removal of the coccyx; or, it may be, nepropexy or perhaps some operation on the gall bladder.

My own experience has developed many cases of this kind. Listen to just two that have come my way within the last few months:

Both women are under 40. The first one was operated on recently and her doctor told her he removed one tube, part of both ovaries and appendix. She did not improve. She was very nervous, had dysmenorrhea and sometimes almost choked with lump in throat. Had visited the Mayos who enjoy some reputation for scientific achievement. They refused to operate on her. At solicitation of some of her friends she called on me. She was well nourished and looked healthy. She did have symptoms of a mild, chronic endo-metritis and probably would have been benefited by a curettage. She had unmistakable "Globus Hystericus." I told her that her health difficulties were mainly neurotic and required medical treatment, reinforced by a simple curettment. She lost little time in going back to the doctor who had previously operated on her and got another abdominal section.

Second case had been curetted for dysmenorrhea. Eight months later had tubes, ovaries and uterus removed; still her symptoms went right on except she ceased to menstruate. Her doctor now wanted to operate on her gall bladder. As in case No. 1 her husband had become a doubting Thomas and wanted to be shown. Both these husbands were good payers, which was unfortunate for their wives. I gave woman No. 2 the names and addresses of two distinguished neurologists in the hope that she might escape the commercial operator.

These neurotics need protection, first, for their own good, and secondly, for the good of the medical profession. I could report a list long enough to put you all to sleep, but these two characteristic ones must suffice. The doctors

who operate on them are either ignorant or dishonest. Both qualities are lamentable.

In the field of gall bladder surgery much interest has attached lately to the question of cholecystostomy versus cholecystectomy. Shall diseased gall bladders be drained or excised? At a recent meeting of the American College of Surgeons a symposium was presented on this subject in which several masters in surgery went on record. I heard these papers and discussions and felt that I was abundantly paid for my trip to Philadelphia if I had heard nothing else. The consensus of opinion was that safety was on the side of cholecystostomy; but the percentage of cures was on the side of cholecystectomy. In the surgical section of the A. M. A. in Chicago in June, 1918, I heard Judd of the Mayo clinic read a paper in which he stated that cholecystectomy was as safe as cholecystostomy. I do not believe his dictum. There is greater risk of hemorrhage and greater risk of infection in cholecystectomy. It is true that in my first hundred cases I was under the necessity of removing the gall bladder in three patients for whom I had removed stones and drained two or three years previously, but these patients were cured. I quite agree with Deaver that an incomplete operation and a living patient is preferable to a complete operation and a dead patient. These three patients, while not cured by the cholecystostomies, were so improved by them that they could and did have their gall bladders removed with safety and were cured. In my first 100 operations I only lost two patients from cholecystostomy; and I was a fool for operating on one of these. The man had refused operation until he became delirious from infection, then his family and friends unloaded him onto me. His gall bladder had perforated and stones lay in a pool of pus outside. I cleaned him out and drained him, but he died, of course. The other was a case which had stones in common duct and was intensely jaundiced, but I thought I could save her. She died from shock.

There is a different story to tell in my cholecystectomies. I lost three cases out of sixteen. This mortality is too high, but we cannot select our cases for the benefit of statistics. We must operate, in many cases against our wishes, for the benefit of patients. Utterly hopeless cases should be refused operation absolutely, no matter what inducement is offered, but we must accept cases occasionally in which the odds are heavily

against us. One of these three cases was an elderly woman who had refused operation until she was reduced to profound invalidism with deep jaundice. She died from shock. Her husband abused me unstintingly among his neighbors for killing his wife, but he married a much younger woman within six months afterwards. Another of the three was infected and running a high fever. She soon died from shock. The third of this series died three weeks after operation from septicemia. I believe that an error in my technique was partly responsible for this fatal issue. I failed to ligate the cystic duct safely and it soon leaked. This was an important lesson. The cystic duct must be isolated, must be seen when ligated. Moreover, great care must be exercised not to obstruct the common or hepatic ducts by our ligatures. I heard that accomplished and honest surgeon, Finney, of Baltimore, say that about 15 per cent of his gall bladder cases gave unsatisfactory end results. He believes that many cases are injured by incautiously applied ligatures.

SUBMUCOUS OPERATIONS.*

OLIVER TYDINGS, M. D.,
CHICAGO.

The records of deflections of the septum, and their correction, were until the dawn of the present century, like the annals of the poor, "short and simple."

The first reference we find to deflection, or as then called, incurvature, was made by Quellmaltz in 1750, who thought them due to injury. Later Morgagni, 1767, who claims to have given special attention to the subject, thought the condition due to too rapid development of the septum in relation to the upper jaw. In 1851 Chassaignac dealt with deviations of the cartilaginous portion. Adams, 1875, worked out a method of correction and made a pair of forceps with which one can still do good work. Mackenzie, 1884, in speaking of Adams' operation—fracture of septum—says, "It seems worth trying in cases of non-traumatic deviations. It is only, however, when the deflection is extreme that so severe an operation would be justifiable." When the deviation is in the cartilaginous portion the simplest plan of treatment is that of Michel, to make gentle pressure on the nose with the finger to the opposite side—but he wisely adds: "It is obvious that it is applicable only in cases of young persons, and where the deformity is comparatively trifling. Where the object of the surgeon

*Read before the Eye, Ear, Nose and Throat Section of the 69th Annual Meeting of the Illinois State Medical Society at Peoria, May 21, 1919.

has been more to remove the source of diseases than to correct a deformity, good results have been obtained by establishing a free communication between the unobstructed fossa and its fellow. This was first proposed and accomplished by Blanden who, on account of loss of voice in a singer, removed a piece of cartilage with a punch." A method which, if we are to judge from results obtained, still has a following. He adds, the voice was completely restored.¹

In our own country, we had the masterly work of John B. Roberts, 1889, and A. W. Watson, about the same time. The stellate punch, known as Steel's, of which John MacKenzie gives the credit to Dr. Bolton of Richmond, Va.; the Ash in 1890, and the masterly work of Bosworth, who seems not to have known of the work of Ash. Bosworth's procedures were made with saw and drill, with methods for straightening the septum.

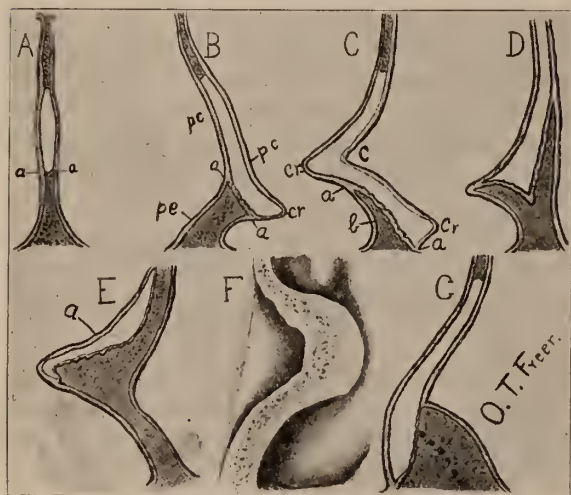


Plate 1.

A. Normal septum, a-a vomer-cartilaginous joint with crossing of conjoined periosteum and perichondrium from naris to naris.

B. Typical crest deflection with crossing of perioste-perichondrium in tilted vomer-cartilaginous joint. a-a; pc perichondrium; pe, periosteum.

C. Crest deflection with tilting of vomer-cartilaginous in naris of concavity; c, concavity; cr, cr, cartilaginous crest in both naris; a-a, articulation; b, vomer. The cartilage is shown bent on itself in form of a knee in a manner typical of this type of deflection.

D. Rare case, cartilage resting in crotch formed by hypertrophied flanges of anterior border of vomer.

E. The bony V formed by the junction of the perpendicular plate and vomer showing, a, cartilaginous strip created by escape of cartilaginous prolongation, normally within the vomero-ethmoidal articulation.

F. A massive bony V.

G. Crest deflection with typical concavity, yet with the other wall of the septum nearly straight because of lack of overhang of the deflected vomer. Dotted lines shows position of usual overhang.

Watson's operation as described by Jonathan Wright: "Made a beveled incision, the edge of the knife directed upwards and towards the opposite side, and was carried through the cartilage, but not through the mucosa of the opposite side. The incision is made on the crest of the deviation—at the same time a triangular-shaped portion with its apex uppermost must be removed. The upper portion in the horizontal incision is pressed over toward the other side where it hooks on to the lower and thus held in place." The projecting portion can afterwards be removed.

In one of the early operations known as the pin operation of Dr. J. B. Roberts, "The septum is crushed by the use of Adams' or Steel's stellate forceps, causing multiple incisions to be made, pins are used to retain the fragments in place until healed. The pins were inserted from the concave side of the septum, just back of its anterior border, passed diagonally through to the convex side, penetrating the latter, then across the vertical incisions farther on into the tissues, back into the septum, much as two pieces of cloth are pinned together, edge to edge. The pin should be pressed home far enough to bring the head to lie on the septum at the point of entrance. It may be covered by a rubber tube. Care must be taken that it does not become lost in the tissue during inflammatory swelling. It should be removed in three or four weeks. In the meantime, both nostrils are free for breathing."²

When I first used the pin in my work, I thought I was the first to use it, but to him belongs that credit, and yet our methods bear no other relation than that it holds the septum straight, his being used with a stellate punch, while mine is wholly sub-mucous, except the head. And anyone following in this work will appreciate the caution given, of keeping the pin from getting lost in the inflammatory swelling, as I did, in one of my early operations, when some weeks after operating upon a physician from Indiana, I received a letter thanking me for relief given, but saying the pin must have been lost as it could not be found and he supposed it had dropped out some time. I wrote to have radiograph made and to have his associate remove the pin. In a subsequent letter he said he had had it done.

Then came the work of our own Freer whose

1. The historical part is taken from Mackenzie.

2. J. B. Roberts: The Cure for Crooked and Otherwise Deformed Noses. 1889.

familiarity with the literature and accurate knowledge of the anatomy marked the lines of the master, and in his hands yields beautiful results. But many who have tried to follow his footsteps have made sad havoc of noses which only a casual acquaintance with the work of others will show. I cannot say that these catastrophies are due to the operations *per se*, but rather to faulty technique upon the part of the operator—a most natural result when one essays to do the work of a master without the preparation fitting him for a master. I performed many of these operations before taking into consideration the possibilities of other methods. Occasionally now, I find it necessary to adopt the greater part of his technique, but believe we have in the one I have worked out, one which looks to the preservation of all the structures of the nose not deformed or diseased, and one with which better results can be obtained in 90 per cent of our cases, than by any other method.

Before entering upon a description of my method, which has before been presented to this body, I will say I accept the two etiologial factors given by most writers from Quelmalz, who thought them due to injury, and Morgagni who thought too rapid development of the septum in relation to the upper jaw as well as more recent writers, as the two prime factors in producing reflection. The first authority covering mostly all the cartilaginous; the latter, all the bony, due generally to faulty breathing except, as was pointed out by Freer, that trauma which fracture the nasal bones and nasal spine of the frontal bone are the two causes of septal deformities.

The subjective symptoms and results are many, interference with nasal respiration and drainage leads to mouth breathing, hypersecretion, faulty drainage, loss of smell, myalgia and other pains, headache, and various reflex neuroses, middle ear disease and deafness. Bosworth stated, "I regard septal deformities as responsible in the large majority of cases, for the whole train of symptoms, direct or indirect, which are embraced under very general terms of chronic nasal catarrh, or to give a more specific name, chronic hypertrophic rhinitis." I think every observer will subscribe to that dictum.

I do not hold that what I have devised is altogether new. When nasal surgery was done by general surgeons, it was done upon principles laid down by general surgeons, of conservation

of tissue in the correction of deformities. But my methods are new as to mode and things used. To me it is as essential for good surgery to preserve the septum as it is to provide drainage and respiration. Neither can be done where you have a redundancy of tissue; but in the removal of this redundancy why should we remove more than enough to satisfy those demands which ventilation and drainage impose? If we will cleave to that line, we will be spared saddle noses, perforations, flapping septum, and other interesting, but not inviting conditions.

The main feature of Dr. Cavanaugh's operation, "Elevating Upon the Convex Side Only" you will find in the "Proceedings of the American Academy of Ophthalmology and Otolaryn-

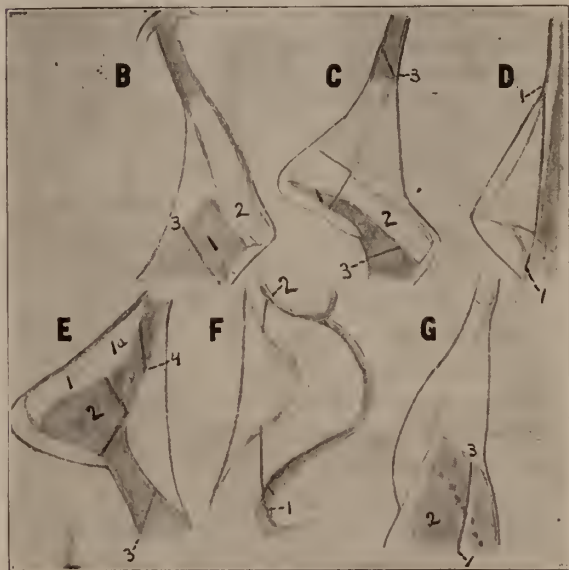


Plate 2.

B. No. 1 is bony structure to be removed. No. 2 cartilage to be placed in No. 3, receptacle made for it.

C. No. 1 shows apex of deflection removed by cut of chisel. No. 2 cartilage to be removed. No. 3, cut of straight chisel through bony structure to straighten.

D. No. 1 line marks limit of tissue to be removed.

E. Nos. 1, 1a and 2 is tissue to be removed by chisel. Nos. 3 and 4, lines of straight chisel for partial resection if bony structure is dense.

F. No. 1 shows line of cleavage through bony structures and overlying tissue. No. 2 shows incision through bone only. Mucoperiosteal structures to be elevated on both sides.

G. No. 1 marks receptacle for cartilage when straightened. No. 2, part to be removed.

gology," 1914, page 308, also in December, 1914, "Laryngoscope," page 979;³ but is limited to "the septum perfectly straight on one side," Freer, Fig. D; for all others, especially where there is a

3. New Submucous Septal Operation—Tydings.

marked deflection of bone and cartilage, it is safer to elevate upon the concave side only, or both if there is a marked redundancy of tissue. Under his careful eye and deft fingers he may be always able to avoid damage to the perichondrium and mucosa of the concave side, yet I feel it will not always be safe in the hands of the average operator.

A full description of my operation can be found in the article above referred to, but I will briefly go over the main points, using plates of others to illustrate. In Fig. B, Freer plate, enter the cartilage anterior to the deflection upon the convex side, going to the perichondrium on the concave side, but not through it; elevate the perichondrium and mucosa to the full extent of your deflection posterior, following the cartilage you will return to the convex side of the septum with cartilage freed from attachment to the bony structure below. The only place you would get a picture of the kind would be just posterior to the junction of the triangular cartilage and vomer, much thicker than the average; then with the angular elevator of Freer, elevate the periosteum over the bony structure, dissecting periosteum and mucosa until results gained are as shown in figure, and then with a chisel cut off the redundancy of bony tissue and place the cartilage in the receptacle made for it on the concave side. It would carry with it its own mucosa and perichondrium, which it may be necessary to elevate along the edges before securing it in position so as not to have the mucosa buried—no harm would come, but it does a violence to one's sense of surgical fitness.

In Fig. C, you pass from convex to concave as in B, but when you elevate the mucosa with its overlying perichondrium, you would follow the cartilage to end of its deflected point, then, still following the course of periosteum, elevate to floor of nose—then elevate the mucosa on the convex side, apply a larger three-cornered chisel to remove apex, and straighten by cutting through the bony structure above and below, removing all thickened or deformed bone and cartilage which would interfere with respiration or drainage.

Fig. D. This is but a redundancy of bony and cartilaginous tissue and must be removed. Elevate the mucoperichondrium, and with cartilage knife and straight chisel cut away the redundant tissue.

In Fig. E we would cross over from the convex to concave, loosen the mucoperiosteum, then elevate over the apex of the convex side, and apply three-cornered chisel, removing redundancy and straightening. If bony structures were as thick as figure represents, it would be necessary to fracture with a straight chisel at points of deflection before straightening. I have found this very necessary in some of my cases.

Fig. F. Here I would elevate as in Fig. B, and to remove the redundancy of tissue would apply a straight chisel and try to fashion a straight septum. Should this be found not practical, would do a classical Freer.

Fig. G. The same dissection as in Fig. B. Following the cartilage you would emerge upon the convex side, elevate periosteum on both sides of the overgrowth, apply straight chisel in line of septum, remove the overgrowth, elevate the perichondrium over the lower end of cartilage, and find a resting place on the concave side covering the bared bony structure on the convex side with perichondrium elevated from the part of cartilage now buried on the concave side.

The figures shown in Dr. Freer's plates are much thicker than I have generally met with, accentuated as it were, for illustrative purposes, and while true to type and form, show a greater thickness than is usual.

I think operators generally will confirm my observation that septums when deflected are thinner than normal, hence the necessity of the precaution to protect the mucoperichondrial structure on the concave side by elevating before attempting to straighten or remove.

In closing I would plead for the same conservative surgical principles observed by every competent surgeon: First, as near absolute asepsis as is possible; second, the avoidance of all unnecessary trauma; third, the conservation of all tissue possible with function; fourth, the mildest and lightest dressings compatible with safety.

ACUTE MASTOIDITIS: ITS ETIOLOGY, PATHOLOGY, DIAGNOSIS AND TREATMENT.

(Concluded.)

RICHARD J. TIVNEN, M. D., F. A. C. S.
CHICAGO.

INDICATIONS FOR OPERATION

Early Operation. It is often difficult to decide whether a mastoid process should be opened. In

a doubtful case an early operation has the following advantages: 1. Conserving the life of the patient; the dangers attending the operative measure as a rule being considerably less than the dangers of delay. 2. Preserving the hearing function; hearing seldom being impaired after early operation. 3. Prevention of extensive bone destruction, with possible invasion of cranial contents and sinus involvement; the earlier operative measures are instituted, the less bone is destroyed, and the dangers of cranial and sinus involvement usually avoided. 4. Reduction of period of invalidism and suffering and hastening of the time of return to daily pursuits. 5. Averting the tendency of the pathologic process becoming chronic; many cases of acute mastoiditis escape operation but terminate in a chronic process, which subjects the patient to serious impairment of the hearing function and the necessity finally of a radical operation. 6. While an unnecessary operation is always to be avoided, it not infrequently happens that a too conservative policy in waiting for certain symptoms or favorite symptoms to develop, results finally, on account of the pathologic process developing, in changing the problem from the original relatively simple one of opening the mastoid to an urgently grave one of operating to save the patient's life.

Early operation is indicated in infants, young children and the aged; in the former, owing to their thin and soft structures, the cranial contents may be invaded; in the latter osteo-sclerotic changes in the mastoid process may cause the purulent material to escape in other directions. The evidence obtained from bacteriological examination of the discharge may be a deciding factor; when the Friedlander's bacilli, streptococci, tubercle bacilli and the Klebs-Loeffler bacilli are present, earlier operation is indicated than if the staphylococci or a mixed infection is present; the former produce more rapid destruction than the latter. A marked leucocytosis with the polynuclear percentage considerably increased merits most careful consideration in connection with other symptoms. Politzer prefers to defer operation until the eighth day, unless urgent symptoms demand immediate operation, on the theory that before this time disseminated collections of pus are found and it is difficult, therefore, to remove all the diseased area, while the waiting results in the formation of one abscess

cavity. Kopetzky prefers to operate just after the hyperemic stage, usually 24 to 36 hours after the mastoiditis has developed, believing the body resistance is better, the smaller venous blood vessels in the mastoid are shut off and the dangers of sinus thrombosis is lessened.

An ordinary acute suppurating middle ear with free drainage subjected to the abortive treatment and without mastoid complications should subside or at least be decidedly improved within two weeks. The tenderness over the mastoid and the other symptoms should likewise subside. Any pronounced departure from this rule, or any marked accentuation of any individual symptom beyond this period, in all probability indicates a mastoid involvement requiring operative interference. An analysis of the symptoms shows that bulging of the drum and sagging of the superoposterior meatal wall near the drum and pronounced local tenderness of the mastoid are accepted by numerous observers as positive indications for operation. If free drainage is present mastoid tenderness of a moderate degree may exist without alarm for one or two days unless other pronounced symptoms develop.

Positive indications for mastoid operation are:

1. Cases of subperiosteal abscess, furuncle of the external canal being excluded.
2. Cases where discharge has abruptly ceased, adequate drainage measures having been provided, followed by the development of symptoms indicative of pus retention, such as increase in the pain and tenderness, sagging of the postero-superior meatal wall, etc.
3. If the drum be incised, providing an avenue for adequate drainage, and marked tenderness over and beyond the antrum persists for a week, other sources including the "neurotic" element being excluded, the mastoid should be opened.
4. Profuse discharge, particularly of a fetid odor, which persists for more than two or three weeks with or without the presence of other symptoms. Andrews stains the discharge with filtered hematoxylin and examines the sediment microscopically for necrotic bone particles; their presence he considers a positive indication for operation.
5. Evidences of meningeal or labyrinthine irritation as vomiting, dizziness, disturbance of equilibrium, nystagmus, chills, sweating, etc., or meningitis, epidural abscess or sinus thrombosis appearing; proper estimate and consideration being given to the significance and development of meningeal irritation in the case of

infants and children. 6. Redness, edema and swelling in the mastoid region (furuncle being excluded), resisting abortive treatment, is evidence of mastoid periostitis due to cortical perforation and requires operation, particularly in children.

Contra-indications to operation are: Cases of advanced tuberculosis, those in the late stages of diabetic cachexia and hemophilic subjects are bad risks and operative measures in such cases are almost always disastrous.

The surgical technic of the mastoid operation is not a part of the consideration of this paper. Mention will, therefore, be made of only a few practical points in connection with the operative procedure, which are a routine of the author's practice. For many years I have employed the Victor electric burr in opening and exenterating the mastoid. Its use materially shortens the time of operation; it performs the work thoroughly and the smoothing and rounding off of the surfaces and borders are accomplished more speedily, neatly and surgically perfect than by the use of the chisel, rongeur or curette. Tincture of iodine is used to sterilize the operative field. The advantages of the method are that it produces a deeper sterilization than other methods; minimizes the dangers of contaminating the field of operation and perhaps eliminates a reduced epithelial tissue resistance, possible of production through the trauma inflicted in the too vigorously applied sterilizing preparation. An essential of the iodine application is that the field should be perfectly dry, at least an hour previously, in order to secure the deeper sterilization desired. When the invading micro-organism is the streptococcus I inject in adults twenty c. c. and in children a proportionate amount of streptolytic serum once a day for three or four days following the operation. This serum increases the general leucocytosis and the patient's resistance, thereby assisting in warding off and combating the invasion of the micro-organism.

SUMMARY

1. A proper conception of the etiology, pathology, diagnosis and treatment of acute mastoiditis must include a precise knowledge of the relations and anatomical variations of the mastoid process of infants, children and adults.

2. Primary acute mastoiditis is of infrequent occurrence. The vast majority of cases are of

the secondary variety consequent upon a middle ear suppuration.

3. The underlying basis of the symptomatology is a retention of pus under pressure and making more or less strenuous efforts to find an avenue of escape, coupled with an absorption of toxins.

4. The treatment resolves itself into abortive and operative; the abortive having for its object relief of the congested structures and providing an exit for the inflammatory debris, present or forming, by the milder measures of rest, free incision of the drum, local depletion, cold applications and counter-irritation; when, after a judicious trial these measures prove inadequate operative interference is indicated.

5. Early operation is indicated in infants, young children and the aged; when Friedländer's bacilli, streptococci, tubercle bacilli, or Klebs-Loeffler bacilli are present, earlier than when the infection is due to the staphylococcus or a mixed infection. The advantages of an early operation are, less danger in operation than in delay; conserving of hearing function; shortened period of suffering and invalidism; rapidity of reparative process and brief detention from daily pursuits; avoidance of the danger of cranial and sinus complications and averting the possibility of a chronic process developing requiring a later radical operation.

6. Positive indications for operations are: subperiosteal abscess, furuncle of the external canal being excluded; cessation of discharge, followed by increase or development of retention symptoms; persistent marked tenderness over antrum and surrounding area existing and continuing for a week following free incision of drum, the "neurotic" element and other causes being excluded; profuse discharge, persisting and resisting treatment for two or three weeks; symptoms of meningeal irritation, intra-cranial involvement and sinus thrombosis, especial consideration being given to the significance of meningeal irritation in the case of infants and children; redness, edema and swelling in the mastoid region (excluding furuncle) persisting and unyielding to treatment, particularly in children.

7. Early and free incision of the drum, followed by proper measures to promote drainage will avert a large number of mastoid operations. The tendency to postpone the drum incision until bulging or other well-marked indications are

exhibited, is a serious error. Free drainage is the paramount requirement; early and free incision of the drum provides this and if instituted sufficiently early, the middle ear infection rapidly subsides and the necessity of mastoid operation is practically always averted; if it is postponed, poorly executed or delayed a mastoid operation is almost always necessary. The author advocates an early free incision in suspicious cases, particularly in infants and children.

8. Owing to the distribution of pneumatic cells on the posterior wall of the external canal a certain degree of mastoid tenderness and infection is present in nearly every case of acute suppurative otitis media. A moderate amount of mastoid tenderness in the early stages of acute suppurative otitis media is therefore to be anticipated, and is not of itself alone an indication for immediate mastoid operation.

9. Roentgenograms, preferably the stereorontgenograms, are of determining value when properly taken and correctly interpreted. Several plates, coincident with the clinical development of the case, are necessary. The physician should learn to interpret the plates himself.

10. All severe cases of acute middle ear suppuration, particularly those showing a marked tendency to attack the mastoid, should, if possible, be sent to the hospital, placed in bed, and the irrigations and treatments administered by a nurse skilled in such procedures. The practice of permitting such patients to visit offices for observation and treatment is a pernicious one and serves, frequently, to prolong the infection increases the hazards of the case and exposes the patient, whose resistance is lowered, to the dangers of additional infections.

11. Tincture of iodine method of sterilization of the operative field is of advantage; streptolytic serum in appropriate cases is serviceable and the electric burr is a valuable addition to the armamentarium of the mastoid operator.

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DISCUSSION

Dr. Richard J. Tivnen (Chicago): Of course, gentlemen, I can not hope to do very much with this very extensive subject in ten minutes, and so I am going to ask your indulgence if I skip along as best I can and confine myself to what seems to be the most important thing and which will bring out a good discussion. That is the main object of this paper, anyway. I have nothing new to offer in mastoiditis or mas-

toiditis diagnosis or acute mastoiditis. It is merely a combination of the things which you all know so well. In the paper, I will simply limit myself to the discussion or consideration of acute mastoiditis. I will not touch on the surgery of the matter. That, of course, would call for a paper of itself.

Dr. Peck: The discussion will be opened by Dr. Thomas O. Edgar, of Dixon.

Dr. Thomas O. Edgar (Dixon) quoted Politzer to the effect that in numerous postmortem examinations of acute middle ear suppuration, pus was always found in the pneumatic cells of the mastoid process. The presence of pus in the mastoid antrum does not in any way imply that an abscess has formed in the mastoid process. One can, therefore, only speak of the formation of an abscess in the mastoid process when, owing to micro-parasitic infection, the lining membrane of the cells, and at the same time the osseous tissue of the mastoid, becomes involved in the inflammation.

We get, first, a hyperemia of the membrane of the cells of the mastoid and an inflammatory thickening of the tissues covering the mastoid, especially the lateral wall and the post superior portion of the bony exterior and canal.

In the next stage, the inflammatory exudate contains pus. The further course depends on the character of the bony tissue as well as the nature of the infection. In the pneumatic type the pus soon extends to fill the air cells and finally, usually after several weeks, we have a purulent destruction of the bony partitions and the formation of confluent abscesses.

In the diploetic type of mastoid, we have, first, a number of tiny abscesses resulting finally in larger abscesses. Even at the end of a week granulations form in the cells, which, in the older abscesses completely line cavities.

In many cases, healing may occur through absorption of the pus by the lymphatics or by drainage through the antrum into the tympanum. Perforation of the mastoid occurs more frequently in children. If it is in the lateral wall, we may get a subperiosteal abscess; if anterior, we have an opening up to the external auditory canal; if interior, on the mesial surface, we may get what has been called a Bezold's abscess.

From E. J. Moure and J. Rozier, we have:

"Abscesses which have formerly been known under the general term of Bezold's mastoiditis may occur in certain regions of the neck. Their formation and situation depend upon:

"1. The disposition of the posterior groups of mastoid cells.

"2. Situation of the perforation of the mastoid abscess.

"3. The normal musculature of the neck with its three regions. Treatment consists in first operating on the mastoid, and then, not before, tracing out the sinus from the interior of the mastoid to the neck and opening the neck abscess."

The speaker related a case of so-called Bezold's

abscess in his own practice and one shown by Shambaugh last year.

He quoted Dr. Joseph Beck as to the value of microscopic examinations of tissue taken from the mastoid process after operation.

Dwyer, of New York, in the results of 174 cases in the nose, eye and ear, from mastoid cavity, found:

<i>Streptococcus hemolyticus</i>	65%
<i>Streptococcus viridans</i>	5%
<i>Streptococcus mucosus capsulatus</i>	20%
<i>Staphylococcus pyogenes aureus</i>	8%

In ten cases, there were two micro-organisms present, viz.:

Staphylococcus pyogenes aureus with *streptococcus*.
Streptococcus hemolyticus with *bacillus pyocyaneus*.
Staphylococcus pyogenes aureus with *streptococcus*.
Staphylococcus pyogenes aureus with *bacillus pyocyaneus*.

Streptococcus mucosus with *bacillus pyocyaneus*.
Streptococcus mucosus with *bacillus mucosus*.

Streptococcus hemolyticus with *bacillus diphtheriae*.
 Thus, there were few pneumococci and relatively many *streptococcus mucosus* besides others of low virulence.

Dwyer found the ordinary examination of the bacteria in the external canal an unreliable index as to the agent infecting the mastoid because of the technical difficulties in excluding the *staphylococcus*, a natural inhabitant of the skin of the canal and other cutaneous alvei.

Ruttin, several years ago, called attention to the insidious and yet destructive course resulting often from *streptococcus mucosus*. Dwyer found many of these cases recover spontaneously, while Dench's experience corroborated both of these findings.

Dwyer emphasized the value of blood cultures to the otologist, and pointed out the frequency of bacteremia and that a fatal prognosis does not necessarily follow. He says there is no doubt, but there is no proof, that a thrombosis is often present without being suspected. A bacteremia may be present and yet the blood cultures may be negative.

Dr. A. H. Andrews (Chicago) thought Dr. Tivnen used the expression "mastoid involvement" rather indiscriminately. The mastoid cells are always involved in every acute case of otitis media, as demonstrated by the use of the transilluminator. When the middle ear first becomes involved, the light passes through the mastoid as it should. As the days go by, usually within two days, the mastoid begins to be obscured. As the case recovers, if recovery occurs spontaneously, the mastoid clears up again, showing undoubtedly that it was involved. If the cells break down, the mastoid does not clear up for the transmission of light until it is operated upon.

The determining factor in these cases is usually that of whether the mastoid cells are broken down, whether necrosis occurs, or whether recovery takes place without necrosis. If necrosis occurs, operation is inevitable.

When necrosis occurs and bone debris is found

under the microscope in the pus, the pain subsides. Tenderness is less, of course, in the thick cases where the cortex is heavy. Where the pneumococcus is the principal factor, the mastoid cells fill the granulation tissue and are more inclined to break down than where the micro-organism is of some of the other varieties.

However, when the mastoid does break down under the influence of the *staphylococcus*, the line of demarcation between the broken down part of the apparently healthy part is usually well defined, while in the pneumococcus the mastoid cells, as far as they can be found, will be filled with granulation tissue.

Dr. Henry G. Mundt (Chicago) emphasized the importance of the roentgenogram in the determining of the advisability of operation in acute mastoiditis.

Roentgenograms of both mastoids will give very accurate information as to what is happening.

Once the intercellular septum is broken down, you might as well operate today as two weeks hence, because that is the thing that is eventually going to happen. You are going to open that mastoid so that the case will turn into a suppurative otitis media.

He has found mastoid transillumination most unsatisfactory.

He thinks an individual having acute suppurative otitis media with an enormous discharge had better be operated upon, even if on careful examination he presents nothing else than the symptoms of acute mastoiditis.

Dr. Joseph C. Beck (Chicago) thought there should be no need of discussing the paper if it were not for some practical or personal experiences on this most important subject.

He differed with Dr. Tivnen as to the lack of value of the x-ray diagnosis. He considered a stereopticon x-ray picture, properly made and properly interpreted by the clinician and the roentgenologist the most valuable means in diagnosing the pathological condition of the mastoid before operation.

Transillumination is of great value, of course. Bacteriology is a very important factor in the course of a disease, and, in these diseases, and in the ulcer of the eye, it is a liquifying organism which causes trouble.

There are in these cases two distinct pathological conditions which differ from each other so much that the course will be entirely different and the treatment and after-treatment, also.

The man who cures a case without operation should consider that after he has cured it and the hearing has returned practically to normal, he has left a damaged mastoid that the next attack is going to break it down, and a much more serious condition will develop.

Dr. Frank Allport (Chicago) called attention to the typical cases. It is easy to know when to operate if we have a true type of mastoiditis. Anybody knows, when certain conditions come on, swelling of the mastoid, redness, soreness, and so forth, that that case needs an operation, but the most interesting and perhaps the most important are those cases where the

clear symptoms are absent; for instance, where there is no particular redness, or none at all over the mastoid, very little pain, even on deep pressure, and not much temperature, with other negative symptoms, those are the cases where judgment is required and where we will frequently miss it if we do not operate in time.

Of course, in children, most of the operable cases are typical cases, but it is different in adults where the mastoid is harder and where objective indications are less pronounced.

Though practically always having x-ray pictures taken in doubtful cases, they don't seem to present indications that he can count upon; neither does he rely upon transillumination though using it in doubtful cases.

He places a good deal of dependence on blood examinations, especially on the percentage of polymorphonuclears, which usually corresponds ultimately with the pathological conditions present.

Where the staphylococcus predominates he feels that he can wait for developments. A predominating pneumococcus character causes more anxiety, and where the cases present predominating streptococcus elements prompt action is necessary.

He does not consider opening a mastoid process dangerous, but has seen many cases where he was sorry that the mastoid has not been opened sooner. Cases where the indications are not very pronounced, where there is not very much temperature, where there is little, if any, swelling or tenderness over the mastoid, but with a long-continued and rather profuse discharge, and especially if it is of a pneumococci or staphylococci origin with a rather high percentage of polymorphonuclears in the blood, if they keep sick and don't get well in a reasonable time—have no right to be denied the benefit of opening the mastoid process.

Dr. Robert E. Goode (Chicago) noted that the paper covered the point of pus breaking through the cortex and through the tegmen, but does not cover pus breaking through the bony wall to the dura. We know that the bony wall between the dura and the mastoid is thinner than the outer cortex, so the pus may as well go into the extradural space as it may go through the cortex to the outer subperiosteal space.

When the pus breaks through the inner bony wall and accumulates extradurally, our picture in mastoiditis changes entirely; the temperature drops, frequently as low as 98, 97 and 96 degrees, the pulse is comparatively slow, as low even as 50 in some cases, and the respirations are slower. The mentality of the patient becomes impaired, that is, the mind becomes sluggish.

When the dura becomes irritated, the patient becomes frequently very dizzy, and if these symptoms are added to the ordinary mastoid symptoms, we may be sure that there is some irritation of the dura.

It is not necessary for the pus actually to appear in any quantity in the extradural space. If the pus penetrates the mucous membrane alone, if the mucous

membrane becomes diseased so that toxins pass through the mucous membrane, the bony wall is no longer any resistance to the infection, to the irritation of the dura, because the little canals and the blood vessels and the lymphatic channels allow the toxins to irritate the dura, and as soon as the dura becomes irritated we find the symptoms mentioned. When those symptoms appear he would operate—the sooner the better.

Dr. Clark Hawley (Chicago) at this point made a motion that all general discussions be limited to not exceed three minutes.

The motion was seconded and carried.

Dr. John A. Cavanaugh (Chicago) emphasized the importance of free drainage by means of incisions in the drum. He said a discharge from the ear by no means indicates sufficient drainage. All these cases should be re-incised, and if they close up to a small incision, they should be again re-incised. When, as in many of these cases, there is swelling in the postero-superior wall, he believes in making the incision clear up into the swelling to the posterior wall, thus giving drainage directly from the mastoid antrum. If a smear (which should be made at the time of the incision) shows streptococci, pneumococci, or other malignant types predominating, the case should be watched very carefully.

In examining the slide, it is important to notice whether the leukocytes are taking care of the bacteria or not.

Dr. Tivnen (closing discussion): I am very sorry that I cannot have a longer time, but you see this first paper of Dr. Nance's was so long and that explains it. (Laughter.)

I thank all the gentlemen for the discussion. That is entirely the reason that I read this paper. The points brought out were excellent in the discussion, much more valuable than the points brought out in the paper, I am sure.

Dr. Allport accused me of negligence in not referring to the fact that in every case of acute otitis media there is tenderness over the mastoid and that there is mastoid involvement. In my complete paper I refer particularly to this point and to the distribution of the cells.

As to the value of x-ray, I said that it was in the experimental stage. It is not, of course, in the experimental stage, but what I did mean to imply was this: That the difficulty of obtaining an x-ray, as most of us find it, is very great. It is very hard to get an expert man to make an x-ray plate of the mastoid which will be satisfactory, and then, too, I think that it takes a tremendous lot of experience to be able to interpret it.

Now this is the important part: I am sure in a suspected case that if we took a series of x-ray plates, the first plate might show nothing of the presence of a cavity or other pathologic changes but subsequent ones may. That method will give us very valuable information as to the progress of the disease. I would like to discuss some of the other points, but the time is limited.

I will say this: That drainage is the point. Free incision of the drum membrane will do that if we get our cases early enough, and if we do get them early enough and make a free incision, we will likely prevent a mastoid operation in the majority of instances.

Also, I think that we ought to consider physiologic conditions in these cases. The practice of having these patients come to our office for treatment in a suspected case of acute mastoid is wrong. I think they ought to be in the hospital, where our laboratory and other examinations and observations can be carried on thoroughly and where they can have a nurse to carry out the treatment details.

As to transillumination, I have not had very much success with it.

A RESUME OF THE YEAR'S WORK WITH RADIUM

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I firmly believe, had it not been for the judicial temperament of Dr. Wickham of Paris at that critical time in the destinies of radium, this truly remarkable agent would have been placed twenty years back.

It is needless to say that the "cure" for cancer will not appear for the benefit of suffering humanity, until we know what cancer is and have established its etiology. Even though the monumental work of Maude Sly with mice has shown us some things as regards transplants and heredity, yet when we weigh all of the evidence, we find that these experiments have only to do with mice and other rodents and do not apply to the human family.

Despite the continued work at great expense at various research laboratories, prominent among them being the Crocker Research Laboratory, we only know that cancer makes its appearance insidiously as a small insignificant local lesion—a "cold sore" on the lip; a scaly, warty growth that has existed for years on the face; a pimple on the tongue; a little bleeding from the cervix; an attack of bleeding piles. All too frequently these seemingly simple conditions are passed over by the patient as something that will get well, anyway. Or if presented to the physician, are in many instances treated as benign with caustics, ointments and what not. And here I wish to warn against the indiscriminate use of carbon dioxid snow on face and lip lesions. There is frequently a recurrence after the use of this chemical and when the growth does come

back it is very active. I argue that if these apparently innocent lesions are taken in hand when they first appear and a tried agent such as radium employed, our death rate from cancer would be markedly lower.

We have been educating the laity on the necessity of early treatment of tuberculosis and is it not just as important to arouse them to the danger of allowing a simple sore, or a little bleeding to go unheeded and unattended? The surgeon's work would be much easier and more satisfactory, if the patient could be taught to pass by the pastes, ointments, teas and other home remedies and present themselves at headquarters at once.

I listened to a paper by Dr. J. Rawson Pennington before the Chicago Medical Society in which innumerable theories were advanced as to the cause of cancer. Many of the theories he quoted were distinctly humorous, while a few had a grain of sense to support their argument. The paper was not intended to establish any claim as to the cause of cancer, but was for the purpose of demonstrating how much at sea we are after years of investigation.

Of course we have all known for years that continual irritation, together with a certain morbidity of the blood, predisposes to cancer. We have paraffin and tar workers' cancer, "Kangri" cancer on the abdominal wall, found among certain hill tribes in India and produced by carrying an earthen jar covered with basket work and filled with coals against the abdomen. And we are all familiar with x-ray cancer that affected so many of the early workers in that field. But cancer does not affect all who work in paraffin and tar, and neither does it take toll from each and every one who wears a "Kangri" basket on his abdomen. Why one is affected and another not we are unable to say.

A short definition of cancer and perhaps as satisfactory as any other, was given by Dr. Bevan, "Cancer is the epithelial cell plus something."

Considering cancer a local condition, at least at first, what can be done for the sufferer?

If cancer can be recognized early, there is no doubt that the sun eon can affect a cure if he makes a wide dissection. And even then every conscientious surgeon wonders if he has removed every particle of cancer tissue. In breast cases, in particular, he rather expects that the patient

will come back to him in the course of a few months with a recurrence. Therefore, it is the custom of those surgeons who are broad enough to acknowledge the limitations of surgery in malignancy, to call to their aid the actinic rays to destroy any "left over" cancer cells that escaped him at the time of the operation.

In the time allowed it will be impossible to more than barely mention some of the conditions where radium has proven of value.

That radium has a distinct devitalizing effect on cancer cells at a considerable depth has been demonstrated by Prime of Columbia University. He found that 80 to 100 milligrams of radium element would cause the death of cancer cells in seven hours. The depth to which the gamma or penetrating rays of radium will go through living tissue and exert a lethal action on lawless cells is approximately 5 cm, or 3 inches. From this you might infer that if 100 milligrams of radium were placed in the cervix uteri all cancer cells would be killed in a radius of three inches. Would that this were truth. But the rays diminish in intensity as they pass through tissue, until we come to a zone where the rays are so light in power that they really act as stimulants to the cancer cells, instead of exerting a lethal effect. It is because of this that we employ "cross-firing," that is, approaching a growth from opposite sides.

Aside from the destruction of lawless cells, radium can be depended on to accomplish two other effects and sometimes a third. First, it stops bleeding. Second, it destroys the cancer odor. Third, it sometimes stops pain. If, however, the pain is at some distant point due to metastases, it has little influence.

The rays from radium act on lawless cells in two ways: First, directly on the nucleus and then the protoplasm. Second, it causes a growth of connective tissue, which shuts off the blood supply and the cell dies by inanition.

In the immediate vicinity of the radium, if left long enough and the dose is large enough, a distinct necrosis results.

In the treatment of carcinoma of the cervix we need not be alarmed if this does occur, though, of course, we must be careful not to carry our continued irradiation over too long a period. This was the mistake of Bumm and others in the early days when they would leave 50 milligrams in the cervix and uterus for

two and three days at a time. Violent reaction ensued, followed in some of the cases by death. If we are using 100 milligrams as our dose we naturally would not leave it as long as we would 50 milligrams. One hundred milligrams in a closed cavity like the uterus or cervix for a period of 24 hours will cause considerable reaction, evidenced by nausea, fever and general depression. But it is permissible to use 50 milligrams for that length of time.

In the majority of cases of inoperable carcinoma of the cervix 60 to 70 hours of irradiations are given, spread over a period of a week.

It is the custom of most physicians who are using radium to request the patient to report in four or five weeks after the first series of treatments. Usually at this time the ulcer has healed, the bleeding has stopped and the odor is no more. Where the cervix has been hard the uterus bound down and infiltration of the adnexa have existed, a condition distinctly opposite will frequently exist. But we are not through with the case yet. This excellent condition may continue for some time and then at one of the examinations we may detect a little blood. The patient may say that she is not feeling quite as well as she did the first month after treatment, and while she gained in weight at first, she seems to be losing again. No time should be lost in commencing another series of irradiations and they should be thorough. In many cases this second series of treatments will clear things up and the patient will come back with renewed vigor.

I have some cases where I have given four and five series of treatments in the course of two and a half years, but in these cases where repeated treatments are necessary, the ultimate prognosis is not good. Even though we are keeping them alive for a space, there comes a time when radium or any other agent fails to produce a response.

When the patient complains of pains in the sacral region or hip simulating neuritis we can be very sure that metastases have commenced and that all that can be done is to clear up the local condition.

A few years ago it was the custom to remove the uterus and appendages after radium had rendered an inoperable case operable. But many gynecologists at present prefer not to interfere with a case after all local signs of cancer have

disappeared. Dr. John G. Clark of Philadelphia has had an extensive experience with radium in inoperable cancer of the cervix and does not favor interference with the knife in a fatuous attempt to better a condition that is already free from local manifestations of malignancy.

Perhaps nowhere in the field of deep radium therapy do we secure more satisfactory results than in cancer of the cervix uteri. Clark of the University of Pennsylvania states as follows: "Radium, as is shown in our series of cases, is by no means a universal panacea for cancer, even when the growth is strictly localized, but many cases show an astounding improvement and local cure cannot be gainsaid. In our series of cases several instances occurred in which the results achieved were so remarkable as to be almost incredible."

The Department of Gynecology of the Memorial Hospital of New York has been doing some excellent work with radium and the report of 1917 is interesting. Their conclusions are as follows: "The use of radium in cancer has now reached a stage where not only advanced and inoperable cases are treated, but also those that are on the border line of inoperability. The results of many of this latter class have been so remarkable that the indications point to treatment in the future of early cases of this disease by radium, rather than by operation. Before this advance may be made time must elapse to show if the results of our clinical cures of 1915 and 1916 are permanent, and also our technic must be perfected that the entire pelvis may be effectively irradiated without damage to the normal tissue." Since this report I am advised that the results in the early cases treated with radium have been so satisfactory that it is being depended on more and more. At the moment I am not in possession of the statistics, but have learned that the percentage of cases that have remained well over three years is good.

When dealing with carcinoma of the rectum we have a different problem. First because of the character of the mucous membrane, and second, because of the intimate relation of the lymphatic circulation of the intestines and the liver. In the 1917 report of the London Radium Institute, Pinch, the director, says: "The results obtained from the treatment of carcinoma of the rectum are by no means constant and uniform, and it is often extremely difficult to predict what,

if any, benefit will follow upon radium irradiation. In some instances, however, growths which have been regarded as inoperable have been so much improved by the action of the radium rays, their size and vascularity being so diminished and the degree of fixation so lessened that tumors, which before treatment had been declared inoperable, have at a subsequent date been successfully removed and the patients have remained free from recurrence." If the growth is soft and situated in the upper half of the rectum the results from radium irradiations are usually good. But the flat, hard growths, especially if in the lower third of the rectum, do not respond at all well to the rays of the radium. From my observation of rectal cancer I feel that radium should be employed before operation, in operable cases, and then again in smaller doses, say ten days after the operation. I am sure fewer recurrences would be observed if this plan is followed.

I wish to report the following case as an example, —Mr. M. of Michigan, a butcher by trade, age 59 yrs.

Two years before he had noticed that he had frequent desire to go to stool. The bowel movements were never satisfactory. He thought he had hemorrhoids, as he had observed blood stained feces. He was treated for some time for hemorrhoids by local physicians. When I first saw him, he was very thin and anemic and said he had lost some 60 pounds. His complexion was muddy but there did not appear to be any involvement of the liver. He passed many sleepless nights because of pain. His appetite was fair. He suffered more when he sat up and therefore spent most of his time on the couch or bed. Examination showed a hard unyielding mass about four inches up. This almost filled the lumen of the rectum. The ulcerated surface was about two inches long. Just inside the anal margin there was another ulcerated area, but much smaller. This was very painful and it was necessary to give him gas when examinations were made. He was given four treatments in January, 1918. He reported again in March, at which time he was found to be suffering from an ischio-rectal abscess. This was opened, liberating a large amount of pus. When examination of the cancer mass could be made, it was found to be much smaller and the ulcer had entirely healed. No blood followed the examination. The small carcinoma at the anal margin was still extremely sensitive. He was seen again in May. The growth in the rectum had nearly disappeared. He reported that he had gained 10 pounds in weight. He had a good appetite and slept all night. At this time, I gave him one treatment, just inside the anus. I did not hear from him till November, 1918, when he wrote me that he was getting to be a fat man. At this time he had been driving all over the country, buying cattle and turkeys. He came to see me in February, 1919,

and I failed to detect any growth in the upper part of the rectum, but there was still that suspicious spot near the anal margin. Further treatment was suggested for this one spot, but he was busy at the time and said he would prefer to wait until he was not so rushed. Since then I have not seen him but his wife wrote that he feels well and is working hard.

On the other hand, Mr. D., of Chicago, was referred to me in the latter part of 1918, suffering with a carcinoma that nearly filled the middle section of the rectum. It was hard and nodular and bled easily, but caused very little pain. A section confirmed the diagnosis. During September, October and November, 1918, he received over 6000 miligram hours and I could not see that it produced any effect whatever. This case was absolutely inoperable.

From these two cases you can see what can be expected from radium in rectal cancer. Sometimes it will give excellent results and again the results are nil. But I think our surgeons will agree that no better results follow surgery alone.

One should be very guarded in the prognosis, even in the most favorable cases of rectal cancer. The rectal mucosa is very sensitive to the rays of radium. Therefore, the radium tubes should be well screened with gold and at least 2 mm. of rubber. A proctitis usually results from a series of radium treatments and sometimes a stricture. Many times this is unavoidable. Even in those cases that eventually succumb to the disease we have the satisfaction of having given the patient a period of comparative comfort and probably halting the disease for a time.

The local application of radium to the rectal wall can frequently be augmented with good results by the application of x-ray over the sacrum and coccyx.

I wish that a more glowing account of radium in bladder malignancy could be given. But when we consider the mortality following operation on this organ we can feel encouraged that we are doing as much with radium to combat malignancy as with the knife. In a report of twenty cases of carcinoma of the bladder reported by Ballenger there were four clinical cures, or 20 per cent. It is vitally necessary to determine the type of cancer in a given case, that the proper line of treatment may be decided on.

Geraghty in the *Journal A. M. A.*, Oct. 20, 1917, concludes: "The early recognition of papillary carcinoma is most essential and the diagnosis being made, the tumor should be radically resected, if operable. In our experi-

ence, fulguration and radium have proved valueless in the cure of this type of tumor." He goes on to say that "radium alone will unquestionably destroy both the malignant and benign papillomas, and on account of its influence on the former makes possible their cure without the employment of radical procedures which would otherwise be necessary. Some of our malignant papillomas, in which fulguration was first tried without success, radium has rendered readily responsive to this treatment. Indeed several cases which have stubbornly resisted frequent and vigorous fulguration, after a course of radiation have responded promptly to this measure."

Young and Frontz of the Brady Urological Institute, in an interesting article entitled "Some New Methods in the Treatment of Carcinoma of the Lower Genito-Urinary Tract with Radium," published in the *Journal of Urology*, December, 1917, conclude that "the use of radium in the treatment of carcinoma of the prostate and seminal vesicles in many cases has resulted not only in marked symptomatic improvement, but in definite reduction in the size and consistence of the tumor. The urethral and vesical mucosa is apparently quite resistant to the action of radium and in our series no ill effect has been noted following intensive treatment from these points. The results obtained in the radium treatment of bladder tumors have been most satisfactory in the malignant papilloma type, which have failed to respond to fulguration. In radium we undoubtedly have a most potent agent capable of producing marked changes in malignant tumors as shown both by physical and microscopic examination. That some cases may be completely cured seems probable, though more time must elapse before accurate final determinations can be made."

I believe the majority of careful and conscientious surgeons have never been extremely anxious to remove a malignant prostate, because of the probability of rapid extension onto the bladder wall and to the seminal vesicles. Therefore, some of our leading genitourinary specialists gave radium a warm welcome, as an aid in these cases. If the malignancy is confined to the prostate, the case can be treated through the urethra and cross-fired through the rectum. Or the radium can be applied by means of a puncture through the perineum with canula and trocar.

directly to and into the prostate. If puncture is made, the radium can be imbedded in the gland for 18 to 24 hours. The patient suffers very little discomfort and the operator has the satisfaction of knowing the radium is at the seat of trouble and is not causing unnecessary burns on the mucous membrane of the prostatic urethra or rectum. Of course, if it is a late case and the cystoscope shows that the disease has extended beyond the prostate to the bladder wall, the radium can be applied via the urethra or possibly by a supra-public opening.

I shall speak but briefly of the other malignant and benign conditions where radium has been found of value. Prominent among the benign conditions where radium has produced such definite results that more than passing notice is demanded, are uterine fibromata and myopathic uterine hemorrhage.

The effect of radium in uterine fibromata is eminently satisfactory. Some observers go so far as to say that all cases are benefited, producing marked diminution in size of the tumor in some cases. I believe that all who have employed radium in this type of tumor agree that bleeding always stops after radium treatment. It is usual to place the radium tube as far up the cervical canal as possible and leave it for 24 hours. Sometimes the patient will suffer considerable discomfort for several weeks and they should be warned of this before beginning treatment.

I recall a case that came to me from Goshen, Ind. The fibroid was as large as a good sized grape fruit. Operation was denied her because of marked anemia due to constant bleeding. Her hemoglobin index was down to 18. She was given a twenty-four-hour irradiation with 55 milligrams of radium element and went home a day or so after. In about a week she became violently ill with high temperature and great bodily discomfort. This lasted for some two weeks and greatly alarmed her husband and friends. In about four weeks after the treatment she began to recover and finally, after six weeks was feeling her natural self again. Her hemoglobin index had increased to 72 and no trace of the fibroid could be found. Probably the over-loading of the lymphatic system with debris from the disintegrating fibromata caused the physical phenomena just related.

In all cases of small uncomplicated myomata

and myopathic hemorrhages radium is the treatment of choice. In myopathic hemorrhages 100 per cent of cures can be expected. Permanent amenorrhea is established if the treatments are continued too long or if the dose is too large. Therefore, in young women great care should be used, since improper irradiation may be followed by premature menopause.

In the treatment of goiter and myelocytic leukemia with radium good results are reported by several observers.

When applied to goiters the size of the growth is not always immediately affected, but the pulse rate is lessened, tachycardia disappears and the nervous symptoms become a thing of the past. If the tumor is very large and pressure symptoms are evident, it is the physician's duty to suggest surgical interference.

Aikins of Toronto, who has written quite extensively on the subject, reports success following radium in a series of cases of hyperthyroidism. He does not confine himself to radium in all patients. A low protein diet and quinine hydrobromate, grs. V, t.i.d., is also prescribed. In my own practice I have treated three cases with radium alone with excellent results.

Radium was used in myelocytic leukemia as far back as 1910. Five cases were reported in 1913. The first lived two years and two months. Diminution in the size of the spleen and reduction in the leucocytic count occurred in every case reported by Giffin of the Mayo clinic. Hemorrhage usually ceases after one or two exposures. Out of 30 cases Giffin records 25 where there was definite improvement in the anemia concomitant with the improvement of the general condition.

Ordway in the *Boston Medical and Surgical Journal*, April, 1917, reports remissions in leukemia produced by radium in cases completely resistant to x-ray. He says: "In the course of a few weeks, in certain instances in three or four months, after radium treatment by surface application, a spleen which filled almost the entire abdomen and extended well to the right of the median line and into the pelvis and caused marked pressure symptoms, has been reduced to normal dimensions, so that it was not palpable below the costal margin. The white cells in the blood were reduced from 500,000 to 6,000, the immature forms being especially affected. The

hemoglobin increased from 60 per cent or less to 90 per cent. Red cells may increase from 2,000,000 to 5,000,000."

The almost specific action of radium in superficial cancers, epitheliomas, rodent ulcers, pigmented moles, warts and leukoplakia is so well known that only passing mention will be made.

In the treatment of epitheliomas of the lip it is my custom to use a large dose of radium for four or five hours over a period of two days. I prefer this to the greater number of treatments required when using the 5 and 10 milligram applications. In six weeks the growth will have entirely disappeared, leaving hardly a trace of its former position.

The prognosis in cancer of the tongue is bad as a rule. Mainly because the case does not reach the radium therapist before glandular involvement. I have found that ligation of the external carotid is a valuable adjuvant in these cases.

In treating cancer of the tonsil it is advisable to bury the radium in the gland for a period of 24 hours, if using 50 milligrams. This will halt the disease for a time, at least, in many cases.

All users of radium have found that sarcomas are much more amenable to radium than carcinomas. I have seen several cases of sarcoma of the antrum of Highmore clinically cured by radium. In these cases it is advisable to drill through the alveolar process and insert a tube containing from 50 to 75 milligrams of radium into the antrum. Three 6 to 8 hour treatments are sufficient.

CONCLUSIONS

1. Judging from the evidence of a host of competent observers, radium has established a distinct place for itself in the treatment of certain pathological conditions, prominent among them being cancer.

2. As we have learned much in the past few years regarding the action of radium rays on lawless cells, so by careful study and observation in the future will we come to a more perfect technic.

3. To obtain the best results from radium as much care, born of experience, must be exercised as in the application of the most potent drug.

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THE TREATMENT OF INFECTED WOUNDS WITH REFERENCE TO THE CARREL-DAKIN METHOD

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The medical man during the great war has not been slow to appreciate the opportunities afforded him. He has accomplished enough to warrant the hearty indorsement of all thinking people. His sacrifices have been many; his time, effort, energy and at times even his life, have been freely given, and his contributions to the sum total of knowledge acquired during these few years have already produced results of the greatest value.

World reconstruction and rebuilding is a gigantic thing, calling for resources and help from the world's big men and great. To have been here while the enactment of this great drama was on is regarded by some as a privilege falling infrequently to the lot of man. We may be proud of the fact that at every point in the great machinery which is rapidly recasting the order of things, mighty though it be, the hand of medical science in many ways can be seen and felt.

New discoveries have been made and many questions directly concerning the daily duties of every physician have been settled. Without further indulging in platitudes your attention is invited to the consideration of a few remarks on a question which has concerned seriously medical men and which deals with the latest means and methods of preventing and arresting the process of infection in accidental and other wounds.

The subject of infected wounds is still surrounded in the minds of many with debatable points, especially as to the most rational and reasonable therapy. The latest treatment, better known as the Carrel-Dakin treatment, has not for some reason found favor in the estimation of all surgeons. While there are many settled points regarding the management of such wounds, the great difference in opinion as to some of the later views on the treatment and absence of uniformity in results of treatment are among the more conspicuous features in need of further study.

To say that the problem of eliminating wound sepsis falls much too often to the care of men unprepared by experience and training in such

work, is another statement whose sole object is with others here made the mere turning, as it were of a few sidelights on some points more or less obscure, and which are troubling the minds of medical men today far out of proportion to the real gravity of the question under consideration, but which should arouse the interest of every doctor.

It has long been the accepted notion among medical men that infected wounds frequently present clinical, and sometimes histological appearances quite comparable to those of malignant disease. The response of infected wounds to surgical treatment closely resembles that of malignant disease. The sequel to surgery in both may be and often is a cure. Again it may be instead of a cure an increase in the gravity of both. Ill-advised, incomplete, untimely and misapplied surgical treatment has, rather than any particular or complicated feature of the infected wounds themselves, created erroneous ideas as to the real efficiency of this or that line of treatment.

The sarcoma on the patient's neck, which was mistaken for a carbuncle, and three times curetted by one of the famous surgeons of the world before the mistake was discovered, is a case in point. Bone lesions, lesions of the mammary gland, acute and chronic swellings about the face, infected or not, as well as pelvic lesions occasionally found in women, are sometimes notoriously difficult to differentiate from malignant disease.

If we can then start with the proposition that practically every infected wound demands for its cure comprehensive knowledge of its causation and character; that ample and efficient surgical skill is at hand for making accessible every part of the wound to whatever treatment subsequently is used, and that the degree of success to be attained is directly proportionate to the thoroughness and completeness of these details, much of the apparent complexity and obscurity of the question of infected wounds will disappear.

Failure to cure malignant disease is due, not to any inherent quality of the malignant cell, nor peculiar resistance these cells offer to treatment, but to one obstacle only, and that is inaccessibility; its great distance from the body surface where such cells can not be reached by any therapeutic measure. X-ray, radium and the scalpel effect cures of malignant disease when

superficially located and when the treatment is instituted sufficiently early, but beyond a certain distance from the surface, protected by structures through which the x-ray, radium and even the surgeon's knife can not penetrate, the disease in its course is rarely interrupted.

Again this compares favorably with infected wounds, which in order to be curtailed promptly in their course must be converted from deep-seated lesions into ones that are more superficial and accessible. Any part of an infected wound, if it is to be sterilized, should be so exposed by surgery that later therapeutic measures may be brought directly in contact with all infected areas. This also compares with the treatment of malignant disease which yields much more readily to treatment by x-ray when proper surgical intervention has previously rendered it accessible, as is now being quite satisfactorily done by Emil Beck.

During the past four or five years great interest has been aroused in the subject generally of the type of wound under discussion. Various methods, so-called, have risen and fallen in popularity and favor, and for the first time we are about to see, if we have not already seen, placed on a substantial basis a plan or method of satisfactorily arresting the destructive processes in wounds.

Skepticism and criticism have shown their heads in opposition to the latest therapeutic measures in septic wounds, as has ever been the case and custom with new discoveries, but the mass of evidence to sustain all claims made by advocates of the Carrel-Dakin treatment is so large, so overwhelming and convincing, that adverse criticism in the future must have more to justify its position than it has ever had before.

The treatment of infected wounds today is no longer an enigma; no longer a kind of surgical work of a haphazard variety whose end results will continue to cast discredit on surgical work, but instead should reflect much credit on it, as well as great honor on those who, with farsightedness, and at a propitious time, felt the crying need of something better in the treatment of unclean wounds, and whose perseverance and energy finally gave it life. It is wise to remember that this method is, as Sherman says, not a panacea or a cure-all, but a measure that when understood and correctly used will control con-

taminated and infected wounds in a manner not before seen in surgery.

The genius of Lister, which in his day initiated a new era in surgery and later made it possible safely to perform operations rarely, if ever, attempted before that time, did not materially improve the method of management in infected wounds. Antiseptics in Lister's day lacked nothing in bactericidal potency, but practically all of them possessed decided toxic and irritating action on normal tissues, which limited greatly their usefulness. Besides this they possessed no solvent or digestive action on dead and dying tissues, qualities so essential to prompt wound sterilization.

These great drawbacks early in the war compelled serious men working along this line to feel keenly the urgent need of a solution, which when instilled into unclean wounds bacterial life would promptly disappear, while at the same time such antiseptics would exert but a benign influence on normal tissues. Carrel and Dakin at this time by scientific research investigated this question and finally, after experimenting with a long list of antiseptics, made from bleaching lime a solution which later fulfilled every purpose and aim by these investigators in the treatment of infected wounds.

THE SURGERY OF INFECTED WOUNDS

Little reference or emphasis has been placed on the kind of surgery necessary in the treatment of infected wounds. We should not forget that the author of the latest treatment in infected wounds is himself a skillful surgeon, and it is to surgeons of equal skill that he speaks when teaching the principles of his conception of septic wound therapy. The closest supervision of an experienced surgeon, or better work by his own hand, is indispensable to successful wound sterilization, even by the method now commanding and compelling the attention and interest of the scientific world.

The prerequisites, therefore, for the success of wound purification are: 1, Sufficient anatomical and surgical knowledge; 2, Knowledge of the characteristics, clinically and bacteriologically of wound infection; 3, Sufficient experience to intelligently examine a wound and correctly to interpret its manifestations both locally and generally; 4, Knowledge of the antiseptics and bactericidal agents used both as to their preparation

and mode of action; 5, A desire and determination to exercise a degree of conservatism consistent with thorough exploration of every wound, remembering always that a second, third or even a fourth surgical intervention a little later if need be, is a safer course than too much radicalism in the beginning; and 6, at least two or three weeks' diligent application of one's time and effort in mastering details of a technique as in the Carrel-Dakin one under the guidance of a qualified and trained instructor before any attempt to use it is made. Ignorance of any one of these requirements on the part of the surgeon disqualifies him for such work. It results in failure to sterilize wounds and causes unjust criticism of the method in use.

It is a technique without mystery, a method leaving little to be further desired in the prevention and cure of infected wounds, easily mastered in principle and application, and within reach of every one. Without a thorough knowledge, however, of the manner of preparing the solution according to Dakin's formula, without daily estimating its strength by careful titration, without properly instilling it into every crevice and pocket of the wound, which has previously been prepared by mechanical cleansing and efficient surgical treatment, disappointment and disaster will be the result.

That opposition to the Carrel-Dakin treatment is strong is not strange, for it has wrought changes so profound in clearing up infected wounds that its comprehension by some, particularly those who have not seen the treatment in use, and who have become more or less attuned to older and long-established ideas, is not easy. Besides this it is history repeating itself. To oppose new discoveries, new thoughts and new ideas, not only savors of true bourbonism, but appears to be quite the correct thing today. Even the peace terms and the league of nations have their enemies who have not yet had enough, and would hold on to the older order of things. Again it is trying and difficult sometimes for some of us to humble ourselves at the feet of embryo teachers in an effort to learn again, and to master the details of new thoughts and new things, which under most circumstances, appear at first very difficult or impossible, but which when once acquired, are like the Carrel-Dakin technique, extremely simple.

This plan of treatment has been charged with

being complicated, expensive and burdensome, when it in reality is none of these. It is a technique so simple, so economical and uncomplicated that one, after seeing it in its practical application, can not but have pangs of conscience for ever having entertained such erroneous ideas regarding it, not to mention the humiliation one must suffer for having unjustly criticised it.

It is well known to surgeons that many, if not a majority, of infected wounds, especially of civil life, demand for a cure nothing more than intelligent surgery, with the use of the simplest antiseptics, or often none at all. Efficient drainage, elevation of the wounded part, continuous or intermitten irrigations with only sterile water and renewal of dressings as required are details, each one of which are of great importance, and will suffice to eliminate infection from many wounds, without the use of any antiseptic. Added to these points are the recuperative powers of the patient and his bodily defenses against the infection which should never be forgotten and which when encouraged play an important role always.

On the other hand, there are infected wounds, which in their bacteriology, pathology and clinical appearances are best known, and indeed only known to medical men who have seen them. These are war-inflicted wounds, unfamiliar to any but army medical men, and call for a line of treatment quite different to that of wounds encountered in time of peace. The acute infectious diseases of the respiratory tract and their sequellae seen in war, have no counterpart outside of war. Word pictures of these wounds convey little; they must be seen and treated to be appreciated. The more serious wounds early in the war were very destructive and went practically unchecked, as the older antiseptics failed utterly to sterilize them. The treatment by "bipp" paste, the salt packs, the hypertonic saline solutions, were little more efficient and wounds went on suppurating as before.

The early excision of infected wounds, possible only in a comparatively small number at best, left much to be desired. Wounds thus treated often failed to heal, and disaster frequently followed the procedure. When a wound is seen sufficiently early and before infection is actually started, and there are no anatomical objections to its excision, no better plan could suggest itself than this. But as these are condi-

tions to be reckoned with in most all infected wounds excision as a means of treatment need not detain us long. The close proximity of accidental wounds to the large blood currents, important nerve trunks, the great cavities of the body and their contained viscera, place excision among the doubtful means of eliminating infected wounds. In wounds more favorably located for excision, this is often impossible, owing to the long interval which intervenes between the receipt of the injury and the beginning of treatment. Another and final objection to this way of treating infected wounds is the fact that structures far removed from the seat of impact of the missile producing the lesion or wound are often seriously damaged, and no appearances of such complications will at the time betray their presence.

Dakin's formula for making the hypochlorite of soda solution, and as later modified by Daufresne, is doubtless familiar to everybody, as it has repeatedly been published and will be omitted here, except to say that it possesses all the characteristics of an ideal solution, is strongly bactericidal and without toxic or irritating action on normal tissues. The technique of its use was early in the war worked out by Carrel. Students everywhere quickly followed his teaching, especially those who learned its details, and came early to see in it all that its author claimed. Others denied its merits and considered it a waste of time and money, and did all that was possible to discourage its general use. Bitter criticisms found their way into print, but they came from men who had never used it at all, or from men who under great disadvantage in the war were unable to use it properly. One man went so far as to attribute its bactericidal power to its alkalinity. Needless to say that these criticisms, baseless and groundless as they were, had for a while, their baneful influence, in that as a result, many lives and limbs were sacrificed.

The activities and emergencies of the great war prodded men in every scientific line into desperate and determined efforts to accomplish great purposes. As a result of their investigations Carrel and Dakin have made discoveries which will shed luster on the science and art of surgery for all time. While few still disclaim credit or merit for this discovery, their lamentations are growing fainter and weaker, and like

the enemies to all great discoveries, will die a perfectly natural death.

In France, England, Canada and America sufficient work with the Carrel-Dakin method of treating wounds has been done, and by a class of men which should in the minds of the most skeptical leave no doubt as to the long step forward that has been taken.

Tuffier, Perret, Pozzi, Dehelley, Dupage and Daufresne of France; Mayo-Robson, Sir Anthony Bowlby, Perves Stewart, Monihan, Hughes and Banks of Great Britain; William O'Neill Sherman, Moore, Deaver and Gibson of America, not to mention the work of scores of able men in base hospitals in American army camps, are on record as to the great value of Dakin's solution in the treatment of infected wounds.

In passing let us not forget that these are eye-witnesses to what has been done, that their knowledge is firsthand, that they have, personally, for three years and more, used this method in the treatment of the very wounds, the ghastliness and frightful mortality of which made such treatment imperative. They have with their own efforts carried this measure into such sudden and striking effect that a revolutionary change in septic wound therapy dawned upon the world in a night. These revelations came, not from places isolated and unknown, but from the seats of war in Belgium, France and England; from the casualty clearing stations and base hospitals of the Eastern and Western theaters of war, and alike from the base hospitals in this country. Is it not strange that these reports read almost identically the same, regardless of their source, and in a manner so outspoken and frank? Shall we then longer ignore the character and the source of this great mass of indisputable evidence, culled from the very heart of the fields in which this great work was done and stand it up for comparison with fragmentary bits of evidence emanating from places where the method has not been fairly tried, or perhaps not even attempted, and where cannon shot was never heard and wounded men were not found? Is it possible for us to engage in any undertaking or work more aimless or useless?

DRESSING OF WOUNDS

The importance of dressing and redressing wounds is not always appreciated even by the surgeon. The removal and renewal of dressings,

drainage tubes, cleaning the skin, etc., should never be done without the same painstaking preparations as are made for clean operations. The wearing of sterile gowns, sterile rubber gloves, head and face masks, should never be omitted. We should remember that we are in the midst of a procedure which has for its object the destruction of bacteria in every part of the wound, and that it is a task far more difficult than preventing their entrance into a clean wound. Bare and unwashed hands, with a cigarette between the lips or held in one hand, while with the other dressings are forcibly and roughly pulled from wounds are sights which have been seen not only in this country, but in other countries. At the moment I think that visions of this sort of a performance come to many of us here.

Dressings are as vital and important as in the first operation or any clean operation, for in one preventive measures are used, while in the other curative ones are aimed at. The wound should under no circumstances, be touched with anything but sterile instruments and these rarely. The skin adjacent to the wound should, at each and every dressing, be cleaned in the manner prescribed, as infection from this source is common.

It has long seemed to the writer that the procedure under discussion is, if anything, of more consequence than any other surgical effort; that in order to eliminate or eradicate infection from a wound, more painstaking effort is required and more points must be considered than in the performance of most clean surgical operations. In other words, such a procedure is nothing more than a warfare between man and his deadliest foe; that in its method of attack it surpasses in cruelty that of the machine gun, submarine or gas bomb; that its hidden forces frequently lurk and loom in every nook and corner of every infected wound, and finally that its greatest advances are made and the greatest damage is done while man is asleep.

The Carrel-Dakin treatment, will, if closely followed in detail, prevent further stain on the pages of the surgical history of infected wounds. Whether we would or not have it so, may for the time being be a matter perhaps of individual choice, but sooner or later, if I mistake not, the surgeon's work in the treatment of septic wounds will become subject to consideration and adjudi-

cation by members of a profession other than his own, as occasion from time to time may call for it. The treatment is now thoroughly systematized and standardized; it is even economical, a poor recommendation to make for any life-saving measure. It is, of course, exacting in its use if details are followed, but of such absorbing interest from the rapidity with which it changes the appearances of ugly wounds, that any exacting or time-consuming feature one might raise against it is of no consequence. It is true that one's early work with this method of treating wounds is beset with the possibility of many little, if not serious mistakes, but such are easily corrected and rarely occur but once.

Perhaps it would somewhat clarify the subject not to regard any one particular item, not even the hypochlorite of soda solution, in the treatment of infected wounds as a "method;" for as an isolated factor, regardless of its inherent quality, potency or efficiency, used alone, would be of no more service than that much sterile water. Dakin's solution merely slopped into a wound at odd or longer or shorter intervals, would avail nothing. But when combined with the many other useful and essential measures in septic wound therapy it becomes, when its strength is maintained and contact with infected wounds likewise, a most effective means of altering the complexion of these wounds. Wound sterilization, therefore, is realized by an orderly marshalling of well-tried and well-attested principles, applied in an intelligent and common sense manner, meeting from day to day the conditions as they arise in each and every wound, as can be done only by the surgeon whose experience in such work has been considerable. No publication on this subject which I have read has exaggerated or misstated with a single word, the facts as they are, and as I have in hundreds of instances personally observed. In the judgment of many no greater step has been taken in surgery in the past century than the work which this presentation but poorly supports. To many this is not understood, but it is plain to those who do understand. Asked for an explanation for the *modus operandi* of the Dakin solution in infected wounds, even those who use it and believe in its efficiency are at a loss for a satisfactory answer. More investigation will no doubt make all this clear, and whether it proves to be due to the liberation of oxygen or the evolution of chlorine

or what not, for the present matters little. These questions yet unanswered can not, nor can the criticisms from whatever source lower the faith and assurance one iota that men have in the solution as an effective bactericidal agent in purifying wounds.

Sir Anthony Bowlby says: "When thoroughly carried out it will do all its author claimed for it, and that it has been of inestimable value to thousands of patients." He says further that "it has renewed faith in antiseptic methods." Previous to the perfection of this technique and early in the war infection in wounded soldiers ran riot and all efforts to control it were futile. Men died that should have lived and limbs were lost that should have been saved.

In 1916 Sherman saw wounds treated in Belgian, English, Canadian and American base hospitals, by the Carrel method, and all were clean. Special reference is made by him to some 80 compound fractures he saw under treatment and in not a single one of them did he see suppuration. Has any other surgeon living or dead ever witnessed these things previous to the great war? Gibson was an eye-witness to practically the same thing. Dehelley and Dumas met with equally as good results in their treatment of various kinds of war-inflicted wounds, as did Tuffier and many others. One surgeon about that time reported one amputation where he formerly had done twenty, and one death where formerly he had ten.

It was about this time that all wounds that were infected began to improve in a manner not before seen; they became sterile and were sutured like fresh wounds. The wounded remained in the hospitals a shorter time than ever before. The "pus service" became a thing in name only; sickening odors and all that goes to make a ward of wounded men a gruesome and unwholesome place were suddenly changed. Patients who had previously suffered with long drawn-out suppurating wounds, and who became anemic and emaciated, now fattened and improved as they had not done before.

To what was all this due? Was this merely imagination in the minds of able and conscientious medical men in many parts of the world? Was it due to a new line of surgical work, or to a lowered virulence in the microorganisms infecting the wounds, or possibly to a higher degree of resistance and more effective defenses of the human organism about this time? To these questions we

can say that it was none of these; as at this time and later, the pathogenicity of all organisms infecting war wounds had measurably increased; that the body defenses against this enemy had been greatly reduced in all fighting men, as deprivation in rest and food, as well as the exposure to which war conditions subject all, were facts demonstrated everywhere.

The great changes then that bounded so suddenly into favor in the Carrel-Dakin treatment of wounded men came not by chance, but by scientific investigation timely and accurately worked out by men whose names it bears. Its real value can further be calculated by weighing the evidence of such men as Tuffier, Chutro, and Sir Alfred Keogh, surgeon general of the British army, who in 1917 claimed that owing to lack of its universal use, 150,000 lives had been needlessly lost, and 75,000 amputations unnecessarily performed.

Reports of this character might be multiplied indefinitely but this should suffice to convince even the greatest skeptic that to the Carrel-Dakin technique all credit is due; and that no further proof of the status of this question or as to the efficiency of this treatment is needed to warrant the co-operation and support of every unprejudiced, fair-minded medical man.

Departures from the trend of human affairs have ever met with serious and determined opposition. Enmity and ridicule have rarely failed to turn aside for awhile at least the progress of noteworthy causes concerned in every form and feature of civilization.

This is true of medical history since its dawn. It is true of all great questions of our time as well as of previous time, and in every line of thought and progress. It is true of political economy, of theology, of law, of literature and all the fine arts. Statesmen, historians, scientists and students in every walk of life often do not live to see the fruition of well-earned victories and bequests to mankind because the value of their beneficent gifts to the world were not timely appreciated.

A whole volume was published by Galen to refute the contention of Praxagoras who claimed that the blood vessels contained only air. After this point was finally settled it required 1400 years to discover the fact that the blood actually circulated, and the author of this discovery devoted a quarter of a century in the effort to con-

vince contemporaries of this belief, and for his pains was ever afterwards regarded by many as a man of unsound mind.

The history of anesthesia, vaccination, the discovery of antiseptics furnish examples of the manner in which new thoughts are often received. These are not, as has been suggested, blessings in disguise, for such opposition to important discoveries works incalculable harm in many ways. An instance in point is the experience through which this country has just passed regarding the flying machine.

Langley's untimely death was due to failure to enlist the co-operation of his own countrymen in support of his efforts to perfect his heavier-than-air machine. After his machine took the fatal plunge into the Potomac river, his humiliation and chagrin at this and the jeers of the world, no doubt hastened his death which followed soon thereafter.

It may be of further interest to know that after the airplane was perfected by the Wright brothers, our own government saw so little in it that funds for its further development were not forthcoming, and which later were supplied by other countries—an oversight which cost this country the sum of six hundred millions of dollars, which was wasted on experimental and frantic efforts to put into practical use flying machines for the World War.

It is a fair statement to make that politics can not lay claim to all the reactionaries and stand-patters, for the medical profession has its share of them. The sincerity of these men can not be questioned, of course, and they have beyond doubt the best interests of their profession at heart; they are watchful and sometimes critical of new methods and ideas, clinging tenaciously to traditional and time-honored precepts and principles; they are often a little intolerant, if not a bit jealous of even well-attested observations, especially at that time in their experience when the pace is becoming to them a little tiresome and fatiguing. Woe unto the aspirant who comes seeking scientific honors and acclaim if he has failed to provide himself with all the safeguards so necessary at times like these.

In conclusion let us not forget that it is the leaders in the profession to whom we look for inspiration and help, and that by their light the remainder are guided and directed in their work. But let us remember also that some of the most

egregious blunders in medical annals must be charged to them, demonstrating again that no mind is infallible and that it is only human to err.

It follows of course that any and every serious student of medicine should exercise the privilege which is his always to criticise or take issue with any idea or teaching, young or old, if such a course is justified by previous study and sufficiently attested observations. But that member of the profession who, without good cause, takes such a position, should realize that such mistakes are beset with serious consequences, of which no better example is needed than is furnished by the question we are now considering.

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DISCUSSION

(Abstract)

DR. LEMASTER (Bushnell): Considered the Carrel-Dakin treatment an absolute specific for wound infections.

In the spring of 1917 his hospital unit arrived in Roumania with twelve Dakin outfits and took over a hospital of six hundred beds. The English surgeons were using at that time a solution prepared under the direction of Professor Smith which was quite different from the Dakin solution.

Under this treatment of wounds the muscles were almost transparent, and the surgeons said that they did not succeed in suturing these wounds, that they closed them exclusively by the use of adhesive tape, drawing the wound together, and there was more or less sloughing.

After the American staff became established in the hospital, it was filled with infected wounds, coming in every day from smaller field hospitals. More than half of the patients had wounds of free suppuration. The wounds received in the first twenty-four hours were excised, with the patients asleep, or under spinal anesthesia, and the wounds were cleaned up surgically and Dakin solution applied in every case.

The little Dakin tubes were used by placing several of them in the wound as you do with your flat distributors and your container. The capacity of

each wound was determined. Then a nurse injected the required amount of solution in each case to just fill that wound every two hours.

The results with the cases which reached the hospital early were wonderful. Nearly every wound was able to be stitched up and closed with primary union without any scar in from six to twelve days, depending upon the location of the wound.

In the wounds that came with free suppuration, the first thing that was done was to apply or use the Dakin solution in as deep a recess as it was possible to get it and treat it for several days. If the wound showed very much inflammatory condition around the edges of it, a hot boric compress was applied also in connection with the Dakin's. Between the hot boric compress and the Dakin we used a non-absorbent cotton, or pulp, the only material available.

This hot compress assisted materially in lessening this inflammatory condition, and in about five days, depending a great deal on the location of the wound, the patient was given a spinal anesthetic, and the wound was cleaned up surgically.

In these septic cases the infection cleared up in a very short time, the wound was stitched up and the great scarred tissues that resulted with any other method was much lessened. It was not possible to carry out the Dakin solution all the time because the material ran out and other methods had to be used. After being forced to try out other methods, and then being able to go back to Dakin again, only made us that much more enthusiastic.

DR. WHITE (Kewanee) wished to know why it was that the British, after having tried the Carrel-Dakin out, refused to accept it, and he quoted the unfavorable experience of a colonel on the Western front in charge of a base hospital.

He also quoted the same Colonel to the effect that Carrel himself at the present time had abandoned the Carrel treatment in his hospital on the Western front, or had abandoned it when the war was over and that he was at the present time using a secret paste.

DR. BECK (Chicago) noted that in various discussions one man says it is absolutely no good, and the other fellow says it is the greatest thing in the world. He believes that it is somewhere in between; that not every case can be disinfected by any sort of disinfectant for physical reasons; that if the solution can reach every recess which is infected it very likely will do the work; if it cannot reach that deep focus, then it will not. In a case of osteomyelitis, in chronic suppurations of bone after injury, there are spaces infected where it requires a scoop or a chisel first to get into that space.

But Carrel-Dakin's solution certainly has a wonderful effect on wounds that can be reached. If it does not close the case entirely, it has an effect of overcoming the toxicity, or the toxic effects, which come from the absorption of pus, and the patient is put into a much better physical condition and his recuperative forces are better.

He does not think the action of the Carrel-Dakin

solution is due to the oxygen generation but rather to a leukocytic *modus operandi*, the leukocytes being drawn by the irritant effect of the chlorine nearer the wound, like all other irritants.

DR. LEWIS (Chicago) admitted that when he began the army course at the demonstration hospital at the Rockefeller Institute in February, 1918, consisting largely of the study of infected wounds treated by the Carrel-Dakin method, he was something of a skeptic. He thought Major Fuller also expressed himself in the first day or so as being something of a skeptic. But it wasn't long before we were all enthusiastic about it, and we were all determined to use it as soon as we got back to the posts where we were doing our work.

In his service in the surgical work of the hospital of Fort Slocum he found that if there is a chance for the Dakin fluid to have access to every part of the wound, it can do wonders, but it can not do miracles. He considered the opposition to the method was confined to men who had never used it. Those who had taken the work at the Rockefeller Institute, at that war demonstration hospital, were decidedly in favor of it.

Among the cases at Fort Slocum was a great deal of surgery, including some septic surgery, empyemas, appendicitis, appendicular abscesses and other septic wounds, and in all cases the results of the use of the method were good. All so-called Dakin solutions are not Dakin solutions.

The principles of the Carrel method are exact. The methods, of course, may change. Perhaps there will be found a better solution than the Dakin solution, but so far it has not been found. Maybe there are some better ways of distributing the Carrel-Dakin fluid to the different parts of the wound than by means of those particular tubes that Carrel recommends, but he has not heard of them.

If the observations and conclusions of this Colonel who tried it on one side and tried another method on the other side of his ward are no more correct than the news that he tells us about Carrel's giving this thing up he felt we must doubt this Colonel's observations, or doubt whether he really used the Carrel-Dakin method.

DR. FULLER (Chicago): I will answer the question that is propounded by the gentleman—why have the Englishmen discarded this? Only the Englishmen who did not not know how to use the Carrel-Dakin fluid discarded it. The other question is why has Carrel discarded this treatment? In an argument not ten days ago one of our Chicago surgeons said, "Fuller, why has Carrel gone back on this?" I dictated a letter to Carrel the next afternoon, and I shall not take your time to read the reply, but I will read two paragraphs from it:

"It goes without saying that my opinion of the efficacy of the method has not varied because it is based not on impression but upon concrete facts. There is great need to tell these facts again and again, because mostly on account of the opposition of a few so-called 'big men' in this country, as well

as in Europe, the surgeons have failed to understand what could be done in the way of treating wounds. How sorry I am that so many men died or lost their lives when it would have been possible to save them if proper treatment had been given."

Gentlemen, I will say to you that in the war it was my fortune to see a great deal of work with this method, and I want to tell you that I saw one hundred and seventy-five empyemas, suppurating chest cavities, being treated with this, and I wish I were able to command English sufficient to tell you what that did. It is not a panacea, it is not a sure cure, patients have died on whom we have used this procedure, because their infection has been so furious and traveled so fast that you could not keep up with it surgically or any other way. But I believe as a means of controlling infection no treatment has equalled it. When a man says "I have used the Carrel-Dakin method," ask him "Have you been schooled and trained in the use of this method?" If he says "no" you may discount one hundred per cent of every word that he says, for he doesn't know what he is talking about. He thinks he does.

War-infected wounds are not the wounds of civil life, but this treatment is necessary for now and again in civil life we have serious wounds, and they should be curtailed just as promptly as if they were war wounds.

During the two or three furloughs I had I made it my business to visit some of the hospitals in Chicago. I shall never forget one of my experiences if I live to be a thousand years of age. I said to the gentleman afterwards. "If Carrel should appear here he would not know by anything he sees that you are trying to emulate any treatment he uses."

This is one procedure in surgery you must go and sit at the feet of teachers to learn. After you are thus qualified to manage these things, you will talk as I do and as other men who have used it.

CERTIFICATES OF BIRTH AND DEATH

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As a result of recent conferences with members of the medical societies in about fifty counties of Illinois, the writer is convinced that there is a general misunderstanding of the requirements of the present law relative to the recording of births and deaths. At one county society all certificates then in the hands of the local registrar were brought into the meeting and discussed. There was only one physician present who had signed any of these certificates of death who did not need to correct his certificate before he left the room. Many questions were asked about uncertain points, and as a result of these conferences greater cooperation has been secured.

Until 1918 the death reports from Illinois have not been accepted by the Census Bureau, and even yet Illinois has failed to get into line on birth reports. For the honor of the state every physician should be careful to strictly comply with the letter and the spirit of the law. In the past a failure to do so has been due rather to misunderstanding and lack of appreciation than to wilful violation. Attention is therefore requested to the following points:

Legal Evidence. Individual certificates of birth and death are legal evidence, and as such they are of immense importance. The physician's name thereon is not a record of the fact of his attendance, but it is his legal attestation to the facts stated therein. *He must sign his own name.* His name written by any other person therein is a forgery, and that fact may completely vitiate the value of the evidence. Unfortunately some physicians have been accustomed to have the report of a birth made out by the office girl, who writes the doctor's name, and sometimes a doctor tells the undertaker how to write the cause of death on a death certificate and to "sign my name." This is not legal. Such a practice must be discontinued.

For purposes of identification and to enable the recorders to obtain corrections it is also necessary that the physician must give his address. One certificate which the writer examined failed to give the town or state, but did give the street and number. In fact, the physician does not reside in Illinois. Often there is no other clue to his address than the district in which the certificate has been filed, and street and number, which are important in many places, are very frequently omitted.

Certificates must be written with unfading ink. They may be made with a typewriter, and that is advisable, but they must be signed with pen and ink.

Though a firm name may be legal for many purposes it is not a legal attestation to a birth or death certificate. The member of the firm signing must write his own name, not "Smith and Jones."

Birth Certificates. The law requires every physician who attends a case of confinement to report the same to the registrar of the district in which the birth occurs within ten days after the birth occurs. This does not mean any time,

and it does not mean that the report cannot be made before ten days. In England the report must be made within thirty-six hours. Unless the time limit be strictly observed many cases will be forgotten. It is better to make the report out immediately. If the child has not been named within the specified time the parents should be instructed that they must record the name, and a delay in choosing the name may work future hardship upon the child. (One doctor said that he was accustomed to tell the parents that if they did not give him the name within the ten days he would name the child, and he frequently told them that he would name the child after some person whose name he knew would not be acceptable, and in that way he said he always got them to name the child.) If the child has not been named within the ten days the report should be filed, and the local registrar is then required to send the additional blank to the parents.

In the case of illegitimate children the physician must not give the name of the mother without her consent, nor the name of the reputed father without his consent.

A birth certificate must be filed for every child which breathes. The fact that the data are contained on the death certificate of a child which lives only a short time is no excuse for failure to file a birth certificate, and conviction of the physician for failure to file the birth certificate under such conditions has been sustained by a court of appeal. The birth certificate and the death certificate are handled by different persons in the larger offices.

A physician who makes out the certificate and gives it to the parents has not complied with the law. He must file the certificate himself, or mail it to the proper local registrar. When a physician sends a birth certificate to the registrar of any other district than that in which the birth has occurred, it is really an imposition, for without compensation it must be remailed to the proper registrar.

Stillbirths. Stillbirth certificates must be filed for children who have reached the fifth month of gestation, but have not breathed. Such certificates are not required before the fifth month, and no other report need be made when a stillbirth certificate is filed.

Death Certificates. A physician who was last

in attendance is required by law to give a certificate of death, unless there be "suspicion of death from violence, casualty or undue means." No physician is authorized to give a certificate of death in cases in which he has not been in attendance, nor in cases where the death has been the result of "violence, casualty or undue means." In some sections there has been a very strong impression that if a physician has seen the victim of an accident or even of homicide before death occurs he should give certificate of death. Emphatically, this is wrong. It may be a means for hiding crime or criminal negligence. The testimony of the physician in the case should be given before the coroner, but he should never, under such circumstances, give a death certificate, and if he does the certificate is illegal and should not be accepted by the local registrar.

When death occurs without medical attendance it is the duty of the undertaker to notify the coroner and the local registrar. If no suspicion exists that death is the result of violence, casualty or undue means, the certificate should be filled in and signed by the local registrar, but never by a physician as such.

Both from the legal and scientific side it is very important that information as to cause of death and contributory cause be accurate and complete. Unfortunately, even well-educated physicians often err in this regard. The contributory cause is frequently given as the cause, and the real cause may be omitted or given as contributory. For example: When pneumonia follows influenza and death ensues, a large percentage give pneumonia as the cause of death, and the duration is not stated. When this problem was stated to groups of practitioners often from four-fifths to fifteen out of sixteen gave pneumonia as the cause. This is not correct. It does not matter what any individual or group of individuals think. Statistics are only of value when they are on the same basis. The rule of practice here is not the product of the Illinois Department of Health, nor of the Census Bureau. It is by international agreement through the instrumentality of a committee. A reason for the rule may be seen through another illustrative case.

The cause of death was given as "pulmonary embolism," and the contributory cause was given as "hysterectomy." No time was stated for either. The physician was asked to give the

cause of death, and duration of cause and contributory causes. He simply added "6 hours" after "pulmonary embolism," and "2 weeks previous" after "hysterectomy." We then called his attention to the fact that on the face of his certificate he had reversed causes, but so far he had failed to tell the real cause. Why did he operate? Was it for fibroids, or for cancer, or for puerperal condition, or for something else? This is the condition to which attention must be directed to prevent other similar fatalities.

In another case the death certificate will be called for in court. The cause of death was given as "peritonitis," and a scratch on the leg caused by a garter was one of the contributory causes named, yet suit was brought against the accident insurance company on the ground that the scratch was the cause of death.

There are certain general rules which will be of value in making the determination.

1. Where two conditions are associated, and one is dependent upon the other, the one first occurring is the cause, and the other is the complication or contributory cause.

2. When two conditions are present, not dependent one upon the other, if one be an acute disease which is frequently fatal that is the cause, especially if the chronic ailment is less frequently fatal.

3. Results of violence are given preference over disease as cause of death.

After a statement of the rules one physician remarked: "I understand. If on my way home I get intoxicated and fall off the bridge and break my skull and then die, I die of alcoholism, not from a broken skull." Yes, if rule one applied that would be true; but if someone dropped a brick on his head that would not be the result of his intoxication, and so the fracture would then be the cause. But rule one does not apply, and by rule three the traumatism would be the cause under each supposition; and because that is the result of violence or casualty, it would be a coroner's case, and the attending surgeon should not give a death certificate.

It is important that the physician give as definitely as is possible the duration of each cause and contributory cause mentioned. He sees the case, and at least he can give some approximate duration, but the classification clerk can give no reasonable guess in many cases. If the time

be stated the classification clerk may check up and correct errors of the physician according to the more complicated rules. If the time be not stated many of these cases will require correspondence.

In the newer forms of certificates there are additional blanks for basis of diagnosis. It is to be hoped that these blanks will be filled, for they will often enable the classification clerk to judge more correctly in tabulation.

Care should be taken to write legibly, and for that reason the use of the typewriter is urged. It takes too much time to guess out some certificates.

"Pneumonia" alone is not a satisfactory cause of death. Please state whether it is broncho or lobar pneumonia. If broncho pneumonia, depends on other disease, such as measles, that should be stated.

Care must be exercised to give the cause of death rather than the symptoms. Paralysis may be the result of many causal conditions. Paralysis is a symptom. Physicians are urged to study the little booklet on unsatisfactory causes issued by the Census Bureau and distributed to all physicians.

The question has been asked whether a licensed osteopath may sign a death certificate. We have an opinion from the Attorney General to the effect that he may so sign if the patient dies under his ministrations, but he is advised to add after his name the statement that he is an osteopath, or it might be held that he signed as a physician. Midwives cannot legally sign death certificates.

An osteopath may not legally sign a certificate of birth unless he has been licensed as a midwife.

Finally. Certificates of birth and death are not mere formalities, nor are they suitable vehicles for display of wit. The physician who gave as the cause of death "Holy Rolleritis" may have imagined that he did a bright thing. Really he aided others in evasion of the law, for he had no legal nor moral right to have given such a certificate. He enabled an undertaker to get a burial permit contrary to law. He occupied valuable time of state and local officers without reason. He necessitated unnecessary correspondence. There is no such disease as he mentioned. He was not in attendance on the case.

If, as he meant to imply, the death was due to criminal negligence, the effect of his certificate was really to shield those responsible from legal investigation.

Make the certificate as clear and definite as possible, but avoid every irrelevant and immaterial statement.

The law makes it the duty of the physician who attends a case of confinement to *make out a proper birth certificate, sign it and file it with the proper local registrar.* It is not the duty of the local registrar to run after such certificate, nor even to call the attention of the physician to his neglect. It is the local registrar's duty to report delinquents to the state's attorney and to the state department for prosecution. The physician does no favor to the local registrar when he makes a report, but the local registrar goes out of his way to favor a physician when he calls attention to neglect, or even asks if all reports have been filed. Physicians should realize this.

A physician who is negligent about reporting births or in making out death reports does an injustice to his patrons. It is the duty of the undertaker to take the death certificate to the physician, and it is the duty of the physician to properly fill in the medical portion of the certificate and sign his name with his address, and to then return the certificate to the undertaker. The body cannot legally be interred until after the completed certificate has been filed with the local registrar and a burial permit has been issued. Realizing this, no physician should cause the slightest delay in the execution of the legal steps. Such delay may seriously inconvenience his own patrons. The making out of the certificate is no favor on his part, but an important part of his legal duty.

Any physician who neglects to file a certificate of birth for each case attended within ten days of the birth, or who neglects or refuses to promptly make out the proper certificate of death, or in either case who neglects to give all the information required by law, is liable to a fine of from five to fifty dollars for the first offense, and to a fine of from ten to one hundred dollars for each subsequent offense, or to imprisonment, or to fine and imprisonment. It is also a violation of the law when the physician furnishes false information.

THE NEED OF MORE LABORATORIES*

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The public health laboratory, maintained by a state or a city and the clinical laboratory, maintained by a hospital or private individual, differ somewhat in their organization and aims. It is true their work is often similar and overlaps at all times. The public health laboratory is maintained by public funds and is run primarily to handle work which has a public health significance. The latter statement is somewhat elastic, and it is not surprising that there are wide differences of opinion and of practice as to what should be handled in public health laboratories. The chief items handled in all of them, however, are examinations concerning the specific infectious diseases. In the absence of proper clinical laboratory facilities in a community it is often necessary for the public health laboratory to handle much work that does not, strictly speaking, concern the public health.

Naturally, a great deal of the work done by a clinical laboratory has a public health significance, but many of the bacteriological analyses and most of the chemical and pathological analyses made by a clinical laboratory, while usually of immense importance to the patient and to his physician are of but little or no public health significance.

The public health laboratory handles a comparatively small variety of tests, but large numbers of specimens in a routine manner. The clinical laboratory handles fewer specimens but a much larger variety of tests.

The public health laboratory works largely with the object of possible disease prevention and epidemic control, the clinical laboratory largely with the object of aiding the treatment of the specific case, though either laboratory serves both purposes. Research work and the research laboratory, which is equally valuable to public health administration and general medical practice, may be organized in connection with either class of laboratories. There are many research problems requiring large numbers of specimens for comparison that are best carried out at a central public health laboratory. The majority of re-

search problems, however, are best carried out in the hospital laboratory, with fresh material and direct contact with the patient, and many such problems can be studied nowhere else. It is here that endowed research laboratories in connection with hospitals render their best service. Each of these classes of laboratories has its own problems and work and all are necessary to the best interests of the community.

There is need for more of both classes of laboratories in Illinois. The state at present maintains the main state laboratory at Springfield and four branch laboratories, the latter handling only a very limited variety of tests.

The system needs development and extension. Outside of the excellent laboratory system of the Chicago Health Department, I believe there are only two or three local communities supporting a public health laboratory. There are several cities and communities able to support such a laboratory and also needing the same.

There are many good clinical laboratories in the state. There are, however, large rural areas and several large towns without a clinical or public health laboratory. In many of these communities a clinical laboratory would be feasible and profitable if properly undertaken. In the larger cities there is often enough analytical work for a private individual to equip and maintain a laboratory and give all his time to clinical pathology. In the smaller communities this is not possible. A general hospital, however, can well afford to equip and maintain a laboratory and offer some inducement to a pathologist or bacteriologist, in addition giving him the privilege of taking in outside analytical work. In two communities that I call to mind the professors of biology in a local college and a local high school, respectively, do bacteriological work out of teaching hours for local physicians, to the profit of both themselves and the physicians. Sometimes a physician finds it advisable to have an office girl trained in the elements of laboratory work to make the simpler tests under his supervision. In other cases, a group of physicians will have a technician.

In whatever manner the question is handled it is to the interests of the physicians of any community not already supplied with proper laboratory facilities to encourage the establishment of

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a local laboratory in whatever manner seems best at the time and place.

Two principal items interfere with the usefulness of a distant laboratory, no matter how well conducted it may be, and regardless of whether it be public or private: First, the element of time elapsing from the collection of the specimen to the receipt of the report, the usefulness of the report often disappearing before it is received because of the time involved in transportation and mail service; second, the deterioration of specimens in transit, also dependent on time, in many items rendering a useful analysis impossible, in many others reducing materially the reliability of the analysis. A local laboratory properly equipped and conducted can offset both these difficulties. The local public health laboratory would be able to do control work on certain diseases in which analysis of suspected exudates is impossible when they must be sent away, and the local clinical laboratory could do good work on a number of items in which the analysis would be unreliable if the specimens were sent to a distant laboratory.

TRICHOMONAS VAGINALIS VAGINITIS*

JOS. B. DE LEE, M. D.

CHICAGO

For many years I treated cases of vaginitis in which there was no gonorrhea with most unsatisfactory results. Many different methods were practiced. Finally I found that some of the intractable ones were cured by tamponade with a mixture of equal parts of glycerine and tincture of iodine.

In 1916 Hoehne of Kiel described cases of vaginitis which he claimed to be due to the trichomonas vaginalis and I was struck with the great resemblance his experience bore to mine.

We know that the intestinal canal harbors infusoria, among them the trichomonas, and that these animalculae are present in the normal vagina has been known since 1837 (Donné). Haussman found them in about 40 per cent of women, pregnant and nonpregnant, and Hoehne in 27 per cent. I have not found them in apparently normal vaginal mucus, but they occur sometimes without real evidences of vaginitis, though few in number.

Since we cannot grow them and make inocu-

lation experiments, we cannot absolutely prove that they are causative of the vaginitis now being considered. But their absence from normal vaginae, their great abundance in typical cases, the failure of the ordinary treatment of vaginitis and the immediate success of the treatment directed against them, make it highly probable that they are the basic cause.

The Trichomonades are infusoria; whether they are a species of the trichomonas intestinalis cannot be proven. In size they are larger than the white blood corpuscle, but smaller than the vaginal epithelium. They appear opalescent, semi-opaque, of varying shape and size like a flounder or a turnip, flattened, and are very active, which renders their discovery quite easy. They alter their shape readily, have pseudopodia and present the contortions of a flounder out of water.

They are to be found by studying a hanging drop of the fresh secretion under a moderately high power scope. The fresh secretion must be used and the reason the trichomonades have not oftener been reported and the etiology of the vaginitis thus discovered is because nowadays we always stain the smears. Thus the trichomonades are killed and they then resemble vaginal epithelium.

Clinically. The woman complains of obstinate vaginal discharge, pruritus, sleeplessness, burning, general weakness and of being run down. The vulva is reddened, the vagina also, and often rough like a nutmeg grater, sometimes minute hemorrhages are seen in the vaginal epithelium. The cervix is sometimes affected. The discharge is profuse, excessive, mucopurulent, thin, bubbly, acrid and with a disagreeable odor. Its irritating character is shown by the erosion of the skin, and especially in fat women there is an obstinate foul smelling intertrigo. Sometimes there are pointed condylomata. We used to think that pointed condylomata always meant gonorrheal vaginitis. It is not so; this simple trichomonas vaginalis vaginitis may be thus complicated.

Diagnosis. This is easy. Even the clinical appearance of the vagina will suffice, but it is the work of but a moment to put some of the fresh discharge under the scope and examine it, unstained, before it dries. The animalculae are at once discovered by their active flagellation.

Treatment. This is also very easy, but it must be thoroughly done, preferably by the physician

*Read before the Chicago Medical Society, Oct. 8, 1919.

himself. I put the patient to bed for two days. On the morning of the first day the vagina and vulva are scrubbed vigorously with tincture of green soap and water, using a rough cloth and going most thoroughly into every fold and crevice. The soap is then rinsed out with sterile distilled water. This process is repeated three times, then a 1/1500 HgCl₂ douche is given also with friction; every fold and crevice being washed. This again is washed out with sterile distilled water. The patient rests in bed. Next morning the vagina is again washed out with green soap and sterile water. Then it is packed with cotton soaked with glycerine and sodium bicarb. (4 oz. glycerine and 1 oz. soda). The folds and crevices of the vagina are filled with the cotton and the vulva is smeared with the mixture. Next morning the tampon is removed and a sterile water douche is given.

The following morning the secretion is examined under the scope for trichomonads. Usually they are gone. Only A. M. and P. M. douches of soda and water 2 per cent are now ordered. If the organism is still present the treatment is repeated. Thus far I have never had to do this.

EYE INVOLVEMENTS FOLLOWING FOCAL INFECTION*

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It is safe to say few subjects have been more extensively studied and written upon in recent years than focal infection, and that our profession as a whole are only beginning to thoroughly comprehend the vast good accomplished by the application of the principles thereby devolved.

There is little doubt that any field of medicine finds more frequent occasion for the application of these principles and more definite results therefrom than that of ophthalmology and yet with all the accumulated evidence of the definite relation of the eye to the entire body from this point of view, we are still prone to make snap-shot diagnoses without going thoroughly into the etiology and pathology of the

case in hand, as well as a comprehensive study of the patient as a whole.

Woods¹ says the work of standardizing ophthalmic teaching will, of necessity, chiefly concern postgraduate work. It will endeavor to influence undergraduate instruction to the extent of urging teachers to give men a proper basis of thought. Without it the first task of men entering ophthalmology is the unlearning of a great deal they think they know. So to present ophthalmology to the undergraduate as to impress the man destined for general practice with the truth that this specialty touches general medicine everywhere, and that he must include it in his thinking and to show the future ophthalmologist that in selecting ophthalmology he is not leaving general medicine behind, but is merely selecting one branch of practice to which he must apply the principles of general medicine—this is the real problem.

How can it be better solved than by founding special teaching on general pathology? In other words, to better fulfill our function as ophthalmologists, in view of the growing knowledge of focal infection, we cannot and must not confine our thought to too narrow a field but become more of a general diagnostician in order to be competent in our specialty. Either this, or we must work with other specialists or groups of specialists outside of our own field to accomplish the most accurate results.

Faith² thinks the more we study the relation of our special subject to general conditions and local conditions in other parts of the body the more we realize the necessity for a thorough general understanding of physiology, pathology, bacteriology and general diagnosis and the more we feel that we are no longer ophthalmologists but rather physicians working in the special field of ophthalmology.

Green³ has said, our work is becoming so concentrated and so much is demanded of us in the way of accuracy of diagnosis that medical men no longer stand alone but must work in close co-operation with others in special lines of work. There is no place where "team work" counts more for the patient's good than the fathoming of a hidden focus of infection which is causing some serious local or systemic disturbance. Again the nose and throat are constantly exposed to the danger of infection from the air and food and

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there is no question that a great majority of the foci of infection causing local and systemic disease occur in some part of the head, yet we must not ignore other infecting areas of the body, such as the gall bladder, appendix, prostate gland, seminal vesicles, pus tubes, infected bronchi, etc.

Is it not a fact that the eye lesion is one of the manifestations of a hidden focus of infection elsewhere in the body and this being the case, is it not our duty to search diligently for the cause or pathology of that lesion and see to its removal rather than be satisfied by merely treating the symptom or local lesion as formerly?

The fact that so many infecting foci occur in the field embodied in our specialty, places a great obligation upon us not only to search with painstaking care every possible area of infection within the field of our special work, but also to inform the profession in general of the great danger lurking in the cavities and crypts of the nose, throat, teeth, the alveolar processes, the middle ear and the mastoid cells.

Billings⁴ says when a systemic disease occurs which present-day knowledge associates with a primary infectious focus, the site of the focus must be located. The character of the systemic disease may point to the most likely location of the primary portal of infection. Every patient should be carefully interrogated as to the past and present condition; a general examination should be made, including, if necessary, the services of specialists in diseases of the ear, nose and throat, the pelvic organs and the gastro-intestinal tract, and in all patients with evidence of pyorrhea and sinusitis the service of the roentgenologist is demanded.

Again, when acute or sub-acute iritis occurs alone, the cause has been ascribed to infection, toxins, anaphylaxis and to faulty metabolism. That infection plays a much more constant part in the causation of iritis is apparent from the experimental work of Rosenow, Irons, Brown and others.

Strains of streptococci in foci of infection of the teeth, tonsils and sinuses have an unquestionable relation to iridocyclitis alone as well as when the eye inflammation is associated with rheumatic fever, chorea, syphilis and other acute general diseases.

The following cases are striking examples of

some of the more common eye involvements following focal infections:

Case 1. Mr. C., farmer, aged 29 years, single, fairly well nourished, always had good health. Patient was referred to me by his local oculist, October 22, 1918. Gave history of having been struck on right eye five years before, causing slight inflammation, which was relieved in few days by local treatment. Two months before I saw him pain suddenly developed in the same eye and he used some remedy obtained in a drug store without relief before consulting his oculist. He then obtained temporary relief but had recurrences of pain and inflammation. Examination showed a severe iritis and even atropine crystals would not dilate the pupil completely as the iris was partly attached to anterior capsule. Wassermann, sinuses, teeth and tuberculin tests all proved negative. Tonsils were moderately large only, with history of a few attacks but not at recent date. However, he had an unmistakable tonsil breath and in view of this and other negative findings, advised their removal. Both tonsils showed infection. Streptococcus, pneumococcus and staphylococcus were present. No further treatment was used in the eye after patient left hospital. The iritis cleared up immediately and there has been no recurrence since in a period of six months. Patient has gained 15 pounds in weight, according to his own statement.

Case 2. Mr. K., farmer, aged 28 years, single, stated he always had good health. Came to the Eye and Ear Infirmary Feb. 11, 1919, with a severe iritis in the right eye. There was almost complete synechia of iris to anterior capsule. Atropine gave partial relief only. Wassermann, sinuses, teeth, tuberculin tests all negative. Tonsils were small but nodular in appearance. There was no complaint of tonsil trouble from patient. Advised their removal owing to other negative findings and their nodular appearance. They were found to contain small pockets of pus. The right tonsil was more diseased than the left. Pneumococcus, streptococcus and staphylococcus were found present. The iritis immediately cleared up without further treatment. I infer there has been no recurrence in this case as patient was instructed on leaving the hospital to report if any relapse occurred.

Case 3. Miss B., nurse, aged 44 years, came to Infirmary March 1, 1919, complaining of pain and severe photophobia in left eye. Examination showed herpetic bleb size of pin head near nasal side of cornea. Did not stain with fluorescein. Three days later the bleb had broken down, forming a rather deep ulcer. Under treatment the ulcer healed in about one week. Less than a week later the patient returned, stating that the eye felt irritable. On examination found two more small ulcers on staining, near the lower margin of the cornea. Wassermann, sinuses, tuberculin tests, tonsils all negative. X-ray of teeth showed apical abscess of upper left, first molar and first bicuspid. Patient had only recently had teeth cared for and had no complaints from them. The

two teeth were extracted and with no further treatment the eye immediately cleared up and there has been no recurrence of the trouble. The patient states that her general health has also improved.

The one notable feature of the above cases as well as several others that I had not time to mention here, is that the eye lesion was located on the same side as that of the primary focus.

Only recently, Harbridge⁵ reported two cases of sympathetic ophthalmia, the origin of which was undoubtedly due to focal infection. Others have reported similar cases. I believe many other inflammatory conditions of the eye and adnexa can be traced to some focus of infection in the head or elsewhere in the body or through the blood.

It is conceded that organisms from the foci of infection reach the system through the blood stream or the lymphatics, most frequently the former. If from a focus in a chronically diseased tonsil, tooth, or sinus an arthritis in a distant part of the body, an appendicitis or a cholecystitis may develop, then is it not reasonably certain that an eye involvement from such source may occur as frequently or more so, since the focus of infection is so near?

My purpose in again presenting this subject for discussion is to excite new interest and further study and to urge the systematic examination of all inflammatory conditions of the eye and adnexia in their relation to the general system.

DISCUSSION

DR. F. D. VREELAND (Chicago): From Dr. Crossley's illuminating paper we can see at once that there are many conclusive clinical facts in connection with focal infections that must be recognized as a very great factor in many eye conditions we encounter in our specialty.

The clinical feature has been brought up to a marked degree by enthusiastic writers of the past and present, and has perhaps attained the highest point some moderate observers would like to have it go. What seems to be more or less inconclusive are our methods of determining the location and possible source of the infection, and we find many advocates of less radical procedure in eliminating the condition.

This concerns more particularly the teeth. I think it was Dr. Allport who first mentioned the shower of teeth in the loop district. Following that the tonsil and tooth tornado swept over the country, promising to forever settle this question that had previously obscured our horizon. Now comes the flood, the headwaters of which proves to be the prostate with its tributaries the seminal vesicles. The old order of things, an eye for an eye and tooth for a tooth, has been supplanted somewhat by a tooth for an eye, which is entirely reasonable if we succeed in getting the right tooth.

This question more often presents itself to individuals who haven't a great many more teeth than eyes and it then becomes a more or less serious matter. We have then reached a period of existence when we are not only shy teeth but shy looks as well. The

development of laboratory technic along the lines of bacteriological research has kept pace with our clinical advancement and of course works hand in hand. What we do lack in serological proof in these chronic infections (and I can't see that, even if this was absolutely definite), it would help us in locating the source of infection. It would only revert to our present procedure which means a thorough, general examination of our patients and the removal of suspected tissue. This also indicates the vital necessity of commandeering all our forces of general medicine and surgery to bring about the desired results. The question of the resultant pathology, particularly in the background of the eye, promises to be an interesting study. As to whether this can be attributed to direct infection or a low grade inflammation involving the structures as a result of lowered tissue vitality remains to be proven.

In summing up this question it would seem that a development of thorough scientific examinations of our patients would in turn mean a more conservative procedure.

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RECENT DEVELOPMENTS IN PERIPHERAL NERVE SURGERY*

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Neuro-surgery has assumed a new importance as a result of a study of war wounds. Embracing as it does neurology and nervous anatomy as well as brain, spinal cord and nerve surgery, it is destined, through the recent impetus given it, to take its place among the important specialties.

Aside from the developments in the treatment of brain injuries, perhaps the most notable advance in neuro-surgery made possible by the wealth of clinical material, has been along the lines of peripheral nerve work. Dejerine has shown that 20 per cent of all war wounds involve nerve trunks, the four most commonly affected being, in order, the musculo-spiral, the ulnar, the median and the external popliteal branch of the great sciatic. The nature of the wounds has been such that much plastic work has been necessary due to extensive destruction of nerve tissue. This was one of the surprises of the war, due, no doubt, to the fact that we had had no

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previous extensive experience with high explosive shells.

Efficient nerve surgery requires an accurate knowledge of the anatomy of the whole nervous system, for the first requisite for good results is a complete neurological examination of each patient. In the objective examination we are frequently confused in the differentiation of organic and functional conditions. This is nearly as true in industrial as in war surgery.

Perhaps no other method is of such extreme importance here as the use of the faradic current, for, after the expiration of three weeks a response to faradism in a paralyzed muscle signifies either functional or central origin. This determined, we are next called upon to differentiate between complete interruption, compression and irritation. If the syndromes merge, as they often do, the diagnosis may be quite difficult.

Having diagnosed complete interruption, there is no satisfactory method of determining whether it be an anatomical division or a physiological interruption. In many cases of complete interruption the condition has been produced by trauma, pressure or hemorrhage into the funiculi, without any cutting of the axis cylinders. This may produce symptoms of compression, but with a progressive degree of paralysis later presenting the syndromes of complete interruption. This is produced by what Dejerine calls a nerve keloid, or slow growing scar. Microscopically on the proximal side of this keloid, is found a pure neuroma in which the axis cylinders are running wild without direction, unable to proceed along the course of the nerve. Distal to the keloid is glioma tissue. This pathology may involve only part of the diameter of the nerve, and we can never tell by its appearance how much of the mass is permeable.

In a monograph by Tinel, published last year, he describes four sets of syndromes: The syndrome of complete interruption, the syndrome of incomplete interruption or compression; the syndrome of irritation, and the syndrome of regeneration. These are based on the following:

1. The degree of motor paralysis.
2. The degree of muscle tone.
3. The tendon reflex.
4. Mechanical irritability.
5. Muscle atrophy.
6. Electrical reactions.
7. Sensation, and

8. Vasomotor or trophic disturbances.

Briefly outlined: In complete interruption the motor paralysis is immediate and total. In compression the paralysis is usually incomplete, but may be complete. In the neuritic type of irritation it is variable; may be marked, slight or absent. In the neuralgic type it is absent.

The tone, which is the state of latent or constant contraction of a muscle at rest, is at first retained in complete interruption, but soon lost. It is retained in compression and increased in nerve irritation. The tendon reflexes, depending as they do, on the continuity of the reflex arc, correspond to the motor paralysis. Mechanical irritability, which is muscle excitability only, and bears no relation to direct innervation of the muscle, is increased at first in complete interruption, later diminished or lost, whereas in compression it is increased and remains so.

Atrophy begins early and is rapidly progressive in interruption, whereas in compression it is usually incomplete and slower to develop. It is slight or absent in irritation.

Of great importance is the electrical syndrome of each group. This depends upon the reaction of degeneration in whole or part, and necessitates examining each muscle separately rather than muscle groups. A knowledge of the location of the motor points on these muscles is necessary to get the best results.

Sensation of all types is lost at once, in interruption, while in compression it is partial, or we may find that the patient complains of pain or paresthesia, as in the syndrome of irritation.

Vaso-motor or trophic disturbance is slight in both complete and incomplete interruption, whereas, in nerve irritation it is severe. Especially is this true in causalgia, which is the most severe type of neuritic nerve irritation.

The syndrome of regeneration is of great value. During this process, voluntary motion is the last symptom to reappear. Occasionally motor paralysis is permanent, even though regeneration is complete, owing to the fact that over stretching from antagonistic muscles has been so great that even though muscle contractions are obtained, they are not sufficient to produce motion of the limb. This emphasizes the importance of braces, massage and the mobilization of joints during the period of disability.

Electrical reactions resume the normal rather

late and consequently are of little value to us in this syndrome.

Sensation returns relatively early, the protopathic variety first, later the epicritic. For this reason it is of the greatest value to us in determining whether or not regeneration is taking place and also its rapidity. The formication sign is here of the greatest importance and can be traced day by day in its progress along the course of the regenerating nerve. This sensation is described by some as the slight burning similar to that produced by the galvanic current. By others as a creeping sensation. It is elicited by light pressure.

TREATMENT

It is a well-known fact that as soon as section is made degeneration begins at once and this whether the nerve is immediately sutured or not. Following the Wallerian Law, the axis cylinders segment, then disappear. The myelin or sheath of Schwann, swells and is absorbed. Aside from the fact that the remaining connective tissue of the nerve is an excellent scaffolding for regenerating axis cylinders the distal end of a cut nerve is of no further use as a nerve. Under favorable conditions, regeneration will progress at the rate of about 1 mm. daily. Before function will return to normal, however, the end corpuscles must be entirely rehabilitated and this takes considerably longer.

In the treatment of fresh wounds there is some difference of opinions. These wounds are, especially in war wounds, infected, and while the feasibility of immediate suture is questioned, the argument seems to be in favor of this, for even though regeneration will not occur in the presence of infection, mechanical union of the epineurium does occur and it facilitates matters in a subsequent operation to have the ends in apposition.

Simple suturing should be done in every case where the gap does not exceed 4cm. in length or where suturing does not necessitate too great tension on the stitches. If this rule is not observed, a clot may form between the segments and become keloid. Also we may produce, by pulling on the proximal segment, a condition known as karyolysis, in the motor cells of the anterior horn.

As to material for sutures, very fine silk is preferable. Prof. Huber demonstrated that plac-

ing this suture directly through the substance of the nerve does not interfere with the down-growth of neuraxes and is far better than several small bites through the epineurium only, with consequent breaking out of the stitches and scar tissue. The natural attraction these segments have for each other is responsible for the fact that 60 per cent of these nerves will unite without suture.

Regarding the advisability or necessity of covering this line of union with cargile membrane, fascia lata, etc., it is the consensus of opinion that these are unnecessary, providing the section does not lie in a mass of scar tissue.

In secondary nerve surgery, in wounds which have been infected, a sufficient length of time must have elapsed to make sure the field is sterile, for latent infection may lurk in scar tissue for weeks and months.

Careful dissection through the scar is necessary when the nerve is in close apposition to an important blood vessel, on account of the ease with which an aneurysm may be produced. In many cases of nerve compression, simple liberation from the scar may suffice to restore function by permitting regeneration, providing no interstitial changes are present in the nerve. Even though there be such changes, the injection of normal saline solution into the nerve substance will loosen adhesions and may permit the neuraxes to descend. Or slight longitudinal incisions through the epineurium have accomplished the same purpose.

Before suturing divided nerve, unless it is a fresh injury, the ends should be freshened by cutting diagonally across them with a sharp knife at a sufficient distance from the end of each segment. It has been suggested that a safety razor blade is better adapted to this purpose than the sharpest scalpel.

In all nerve work a dry field is absolutely essential to good results, for this insures the minimum of scar tissue. The tourniquet should not be used, for each vessel should be dealt with separately and hemostasis insured.

In regard to plastic work the neuro-surgical section of the department of surgery has been guided largely by the extensive experiments of Professor Huber from Ann Arbor. Most of his work, at the instigation of the government, has been done on the ulnar nerve of dogs. In brief,

as a result of these experiments, he has drawn the following conclusions: Nerve flaps, cross suturing, lateral anastomosis, etc., are procedures that are not only usually unsuccessful from a practical standpoint, but are contrary to the principles of nerve regeneration. End to end anastomosis, with correct technique, should produce better results. For instance, in the operation of uniting the spinal accessory with the facial in cases of Bell's palsy, in all the successful or partially successful cases, the ends were either cross sectioned and sutured end to end, or the distal portion of the spinal accessory had been injured, intentionally or accidentally, in such a manner that the neuraxes could no longer descend along their normal course and were diverted into the new channel.

In destruction of nerve substance where it is necessary to bridge a gap between the ends, experiments have shown fair results in the method of using bundles of catgut sutured to both ends. This catgut, by absorbing, leaves channels for down growing neuraxes. The percentage of failures was so great, however, that Prof. Huber does not recommend the method.

He regards only two methods of real value in these cases. These are tubulization and transplantation. Better results have been obtained by the latter method. In this method both homo- and hetero-transplants have been used, the hetero transplants being obtained from some recent amputation, and the homo transplants supplied by some sensory nerve, such as the small sciatic, of the patient himself.

Tubulization is a simpler method and has been used with very good results. Of all the different materials used for tubulizing the gap, which includes decalcified bone tubes, hardened gelatin, cargile membranes, etc., the best results have been obtained by the use of fascia lata as advised and used by Dean Lewis, and with the use of the hardened arteries of calves. In this latter method the carotid artery of the calf is removed when the animal is killed. It is fixed in 5 per cent formalin solution for 48 hours, then washed for 24 hours and boiled in water for 20 minutes to sterilize. They can then be kept in bottles as we do catgut. Lewis has combined the methods of tubulization and transplantation with very good results.

SUMMARY.

1. Modern warfare has given the subject of surgical neurology a new importance due to the destructive nature of the high explosive shell.
2. A systematic neurological examination should precede every operative procedure on nerves, the eliciting of the syndromes, particularly the electrical examination, being the most important part of this examination.
3. Fresh nerve wounds should be immediately sutured, as a rule, irrespective of the likelihood of infection. Excessive tension should be avoided, and if this is impossible, we should resort to plastic surgery.
4. Experimental work has demonstrated that many commonly used procedures of plastic surgery are not to be advised in the future, and a close study of the principles of nerve regeneration has shown why certain methods result in failure.

ARTIFICIAL BILATERAL PNEUMOTHORAX.

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SPRINGFIELD, ILL.

It is about a hundred years since Carson, the English physiologist, directed the attention of the members of the Royal Society to the possibilities of induced pneumothorax as a therapeutic agent in the treatment of pulmonary tuberculosis and developed a technique by experiments upon dogs.

Coming down to recent times, the work of Forlanini and Murphy is too well known to require further comment than to say that all development since their epoch-making investigations has been along the fundamental lines laid down by them, with only such modifications as individual cases have necessitated.

From an attitude of doubt and skepticism, the profession has gradually come to look upon the procedure with increasing favor until today it is accepted by most phthisiotherapists "as a permanent and valuable addition to our therapeutic measures" (Minor).

The considerations which prompted me to undertake the induction of bilateral pneumothorax were, primarily, a desire to impede or prevent an

anatomical extension of the disease on the less active side, due to overcompensation; secondly, to relieve symptoms of toxic absorption; thirdly, a hope of causing an arrest of the process and possibly a cure. I was encouraged by the common knowledge that, in the vast majority of cases, one seldom obtains a complete collapse of the lung; that Nature has provided us with considerable more pulmonary vital capacity than is ever brought into play save under forced respiration, and that, whereas a complete closure of both lungs would be incompatible with life, a partial collapse might be expected to produce a degree of benefit proportionate to the immobility attained. Back of this was the conviction that the symptom complex, manifested by cyanosis, rapid pulse, high temperature, nervous irritability, etc., is the result of toxic absorption rather than the mechanical factors involved. That this supposition was correct is borne out, I believe, by a study of the table here presented. The respiration, pulse, temperature, cyanosis, and expectoration have all been decreased and general progression made all along the line.

All of the cases described presented bilateral, progressive lesions of the ulcerative type with cavitation and were going from bad to worse. All had positive sputum. Some of the cases cited are from my private practice, others from the Springfield Open Air Colony.

No. 1. *Case A. C.* had been in our institution for perhaps eighteen months and had had many hemorrhages and was steadily losing ground for about four months. Following induced bilateral pneumothorax she improved in weight, strength and symptoms sufficiently to leave the institution. She has since married, and says she feels better than in five years.

No. 7. *Case C. R.* is a private patient. Her record covers a period of three years. She has an extensive bilateral lesion and had been under the care of one of the best known phthisiotherapists in the State. He had given her no encouragement and at the time she consulted me she was in the depths of despair. I call your attention to her pulse, her respiration and temperature (See chart).

No. 9. Now note particularly *Case R. C.* This young woman, when she first came under our care, had a lesion of moderate severity in the right upper lobe with cavitation. The infiltration was quite extensive. We began compression of the right lung and seemingly were progressing quite satisfactorily when she developed an attack of influenza. Following upon this, the whole upper left lobe developed an acute ulcerative process. The heart sounds became accentuated and the rate greatly increased (120 plus). There

were no murmurs, but the systole was accompanied by a friction rub over the apex. Dyspnea was intense and accompanied by great pain. This was constant and only controlled by considerable doses of opiates. I decided to put an air cushion between the pleural layers in the hope of reducing friction and getting her away from the use of morphin. The relief was instantaneous and has continued satisfactory up to this time. Later, because of an awakening activity on the right side, we again undertook bilateral compressions with what splendid results the chart shows.

Case No. 4 was about to be discharged as an arrest when he came down with influenza, developed pneumonia and died. From the beginning he did badly. The cyanosis was intense and, when I consider his excellent physical condition compared with some others who recovered, I have wondered if he too might not have made a successful fight had not his lung capacity been very markedly reduced by a compression just prior to the attack. I would cite against this, however, the cases 5 and 12.

Case 8, a returned tuberculous soldier, was far advanced at the time he came under observation. He failed to respond to any form of treatment from the start. We tried unilateral compression and then bilateral, without any benefit whatever. He developed pneumonia, a sequel to influenza and succumbed on the eighth day.

In reviewing this table, I would direct your attention to the fall in temperature, the decreased respiration, the drop in pulse rate and the general amelioration of all symptoms. It might be well to add a word of explanation. Expectoration is usually increased immediately following the compression, but grows progressively less as the treatment progresses.

The writer believes that the ultimate worth of bilateral pneumothorax has yet to be proven. His experience, limited to the cases tabulated, has not been sufficient to warrant him in forming any very definite conclusion beyond holding that it is a perfectly safe procedure, and that it is not accompanied by symptoms more distressing than attends the unilateral compression providing the rules which I shall lay down are followed. I know that relief and benefit have attended the procedure as I have practised it, but more than this, I do not claim. I have been prompted to report these cases that others engaged in the work may be stimulated to take it up and aid in establishing the true status of induced bilateral pneumothorax in phthisiotherapy.

At the time I began my investigations I was not aware of the work of the Italian (P. E. Liver-

ato, *Riforma Medica*, Nov. 28, 1914). He speaks of it as being quite extensively practised in Genoa and believes that the benefit is due to the interruption of the current flow of lymph from the lungs to the pleura, thus preventing the passage of poisons into the blood.

In closing I may summarize what I consider to be the indications for induced bilateral compression:

1st. Extensive bilateral progressive ulcerative lesions.

2d. An awakening of an arrested process on the better side due to overcompensation following a unilateral compression.

3d. All active bilateral lesions.

4th. Symptoms complex of toxemia of bilateral origin.

Rules: 1. Bilateral compression should not be done at the first sitting, but only after each side has been treated singly at least twice and followed not only by a period of about two days' rest, but also by a cessation of all distress incident to the procedure.

2. In the initial bilateral compression we seldom exceed twenty-five per cent. of the gas used on the opposite side. As the patient becomes accustomed to the process we give to tolerance which we ascertain by asking him to tell us the moment he feels "tight" or short of breath, we then stop immediately. Occasionally one, unmindful of our purpose, will attempt to "stick it out." To avoid this we watch respirations closely and on the first evidence of undue shallow or rapid breathing we withdraw the needle.

3. Never introduce under any circumstances enough gas to cause dyspnea.

FOOTNOTES

1. Married and in good health.
2. Arrest.
3. Left institution against advice. Reported as doing well.
4. Died of bilateral pneumonia following influenza.
5. Influenza in December. Recovered.
6. Hysterectomy in February. Under gas anesthesia. Symptom free.
7. Returned to work full time, symptom free.
8. Died of pneumonia sequelae and of influenza.
9. Still under treatment at Springfield Open Air Colony.
10. Still under treatment at Springfield Open Air Colony.
11. Returned to work at mines full time and symptom free.
12. Still under treatment at Springfield Open Air Colony.
13. An arrest. Doing well.
14. Improving slowly. Able to be up and do light work.
15. Terminal case. Treatment continued at request of patient. Claims she is benefited by them.
16. Terminal case. Had many compressions prior to coming under our care. Hesitated to agree to Bilateral Compression. Finally consented and claims he has been benefited. Insists upon having them continued. Prognosis hopeless.

AVERAGES HIGH BEFORE AND AFTER BILATERAL PNEUMOTHORAX.

	Temperature.		Pulse.		Respiration.		Cynosis.		Expectoration.	
	B.	A.	B.	A.	B.	A.	B.	A.	More.	Less
1	100 ¹	99 ⁴	96	98	21	21	.....	Slight	.....	Less
2	101 ³	100	106	92	23	25	.....	.....	.....	"
3	101 ³	99 ⁷	99	93	26	23	.....	.....	.....	"
4	100 ³	99 ⁶	106	89	24	23	.....	.....	.....	"
5	102 ¹	100	110	100	28	22	Slight	Less	.....	"
6	100	99	95	86	22	24	"	"	.....	"
7	101 ⁴	98 ⁵	95	84	26	24	.....	.....	.....	None
8	103	103 ³	110	118	28	28	Marked		Profuse	
9	101 ⁴	100 ⁴	109	98	34	23	Less		.....	.....
10	100 ⁶	99 ⁹	104	103	25	28	Less		.....	Less
11	99 ⁷	98 ³	100	90	21	19	.....	.....	.....	"
12	100 ⁵	99 ³	96	100	20	19	.....	.....	.....	"
13	99 ³	98 ⁶	80	77	21	19	.....	.....	.....	"
14	99 ⁴	98 ⁵	85	85	21	21	.....	.....	.....	"
15	102 ²	100	95	95	24	26	x	x	.....	"
16	102	100	103	100	23	23	x	x	About	same

DISCUSSION

DR. ETHAN A. GRAY (Chicago): I am always interested when any member of the tuberculosis group brings forth anything on artificial pneumothorax. This is a subject which should be better known and more generally practiced. I regret that I cannot agree with Dr. Abbott on the subject of bilateral lung collapse.

We ask: "What are we trying to do? Are we attempting to give temporary help to the patient or are we working for a permanent solution of his special tuberculosis problem?"

We look for permanent results when we resort to artificial pneumothorax.

What happens after a pneumothorax? If the patient has had a collapse continued for a sufficient length of time, two things will happen—first, given a complete collapse there will be a reduction in the blood supply and a shutting-off of the lymph stream, almost entirely; the cavities will be closed down until their opposing surfaces meet; they will be recognizable later, only by the line of the adhesion. Section shows this very clearly. Incidentally the tuberculous nodules are confined—absorption from abscesses, cavities and nodules is thus, it is evident, reduced to a minimum.

The second thing to happen if the pneumothorax be long continued is the binding down of the lung brought about by the deposit of fibrin over the surface of the collapsed lung. Such a lung never expands.

Is it not evident then, that if proper collapse has been done on one side, we can not collapse the opposite lung without endangering the patient's life?

Let me say that a lung should be collapsed to the limit if it is to be collapsed at all. We cannot control the lung in part. Except for the influence of adhesions, the whole lung collapses when gas is introduced into the pleural cavity.

It takes many months, even years, to produce a complete and satisfactory collapse. End results should, therefore, be studied only after years have elapsed. Will Dr. Abbott be of the same opinion five years hence as now, in regard to his results?

Many of my unilaterally collapsed cases have become wage earning; two, even, passed the examining board and were certified for overseas duty.

In the presence of proper data, I am willing to change my opinion; for the present, however, I prefer to disagree with Dr. Abbott.

DR. ABBOTT (Closing): Now, I think we will all recognize that Dr. Gray of Chicago has possibly had more experience in pneumothorax than I have. I will say, though, in regard to some of the men becoming wage earners, and others being accepted for overseas some of my patients have become wage earners, but I hope we shall never be called upon to prove their fitness for overseas.

Do not make theoretical deductions. Get your facts and then shape your theory to them. The fortunate thing about that is that it doesn't prevent progress. As I said, I realize as Dr. Gray stated, that it is altogether too soon to draw conclusions, but I also say this: That when in tuberculosis you get a drop in pulse, you get no increase in respiration, when you get a drop in temperature, when you get an amelioration of all symptoms, are you doing good for the patient now or for two or three or four years to come? It is what you can do now that counts. It is not for the examination on the post-mortem table.

STATIC BACK TROUBLE*

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Under the above caption may be included all those back conditions that are not of infectious origin; secondary to derangement of special organs, or due to some intercurrent disease. By the term "static" is meant any change in the anatomical and mechanical relation which the various parts concerned bear to each other.

More or less confusion has always existed relative to the proper classification of "back troubles." While a variety of forms have long since been recognized, writers, as a rule, have been content to group them under one general head, making no serious attempt at a distinct classification, either as to cause or effect. Attention

was first called to the non-infectious variety of "back troubles" by Gussenbach in 1878. He differentiated this form symptomatically but made no effort along etiological lines to separate it from the general group; in fact, Gussenbach taught that all backaches not accounted for by some specific infectious agent were of rheumatic origin, and subsequent writers for many years followed that routine. In 1905 Goldthwaite and Osgood further elaborated the subject and for the first time cast aside preconceived opinions as to origin and introduced the static element into the discussion. Goldthwaite in 1911 published the results of an exhaustive study of this condition, avoiding specific classification, however, and dealing with the etiology only along broad general lines. Since that time Woodbury, Ogilvy, Graves, Marshall, Kosmak, O'Ferrall and others have written upon the subject from various angles. All have recognized a group of conditions wherein static disturbance is evidently the chief pathognomonic factor. None have seen fit, however, to give this group a definite name. Some have used the term "back strain," others, "static strain," etc. The use of the word "static" in connection with a strain is a misnomer, however. A static condition may result from overstrain of muscles and ligaments in any part of the body for that matter, but it is hard to conceive of a strain becoming static. Again, these terms are too narrow for a general classification and do not adequately describe existing conditions. Only a small proportion of these cases owe their origin to a strain *per se*. Other factors must operate coeval to produce the trouble, which is a true static disturbance, the result of more than one adverse factor long continued as a rule. The title selected seems to more fully meet the requirements and while its legitimate use is open to debate it appears more appropriate to the writer than any so far employed.

In considering the etiology of this group of back cases it becomes at once apparent that the causes are largely mechanical and operate from without. Owing to the peculiar anatomical arrangement of the spine and its diverse function it readily lends itself to static disturbances, a fact very generally overlooked. Slight traumatic influences insufficient in themselves to cause any serious trouble become potent factors for evil taken collectively, or persisted in; such

*Read before The Southern Illinois Medical Association, Nov., 1919.

as sudden violent athletic exercises, like jumping, weight lifting, wrestling, etc.; unaccustomed heavy weight carrying or subjecting the weight bearing structures to undue work. A large number of such cases developed in the training camps, undoubtedly the result of the intensive training then in vogue. Trench vaulting and bayonet practice were the chief offenders here, closely followed by long hikes under full weight packs. The young recruit from 18 to 21 or 22 years of age suffered most in this regard. Incorrect walking, standing or sitting; improper working attitudes, overworking any special muscle groups; pronated and everted feet; most modern corsets; narrow high-heeled shoes; any sudden change from sedentary to active life, and many others may, at one time or another, acting singly or in combination, cause this trouble. The element of time is a necessary adjunct in the etiology. Without it few, if any, of the above factors would cause serious menace. Static back trouble, then owes its origin to a persistence in abnormal and unnatural positions maintained over a sufficient period of time to become habit forming; effecting either the spine directly or involving other and often distant structures, which in turn deleteriously react upon vertebrae and their adnexa. O'Ferrall maintained that the elongated transverse processes of the fifth lumbar vertebra impinging upon the sides of the ilium was the cause of most of the backaches and pains commonly met with. While a few cases may be so caused, the vast majority cannot be thus accounted for, and this factor could become operative only in cases where congenital deformity of the fifth lumbar vertebra is present or marked static disturbance of the spine supervened. Normally the transverse processes of the fifth lumbar vertebra lie in front of, and well away from, the sides of the ilium. Any impingement, therefore, to become pathological, must of necessity presuppose a radical change in the static relations of the parts concerned. Hence, in the ultimate analysis the impingement is but the last co-incidence in the genesis of the trouble. The x-ray in these cases is of little diagnostic value. All normal spines viewed antero-posteriorly show an overlapping of the fifth transverse process, or rather an extension beyond the inner borders of the ilia. They do not necessarily impinge, however. A separation of the sacro-iliac joint with consequent settling of the spine

and projection downward and backward of these processes might cause an impingement, but such a conclusion so far as the x-ray is concerned is largely a matter of guesswork. Out of 403 such plates examined by the writer in the past three years, only six could be placed under liberal interpretation in this category and other investigators have fared no better.

The question naturally arises: How far do the factors heretofore assigned as causes influence this trouble? Primarily as causative factors, little, if any; as secondary and complicating causes, their effect is far more disturbing. We have long since discarded the "rheumatic" and "uric acid" diathesis of Gussenbach as a primary cause. So, also, relative to auto-intoxication, food poisoning, etc. Proteid intestinal decomposition, whatever other bad results may follow, does not involve the bones and joints or contiguous muscles and ligaments, especially those articulations where friction is negligible. The same is true of toxic food products. Both act as acute irritant poisons and generally attack the viscera in the pathway of the great circulatory and lymph channels; rarely traveling far afield or persisting over a long period of time. Sudden exposure to heat and cold may aggravate, but do not cause these disorders. Certain gynecological conditions have been for long assigned a prominent role as causes of back trouble in the female subject. Issue is here taken with this dictum as a primary cause alone.

That uterine disorders and displacements do cause a small percentage of the backaches encountered in women and harass and complicate many more is freely admitted. That these factors are primary causes in the great majority of cases met with is emphatically denied. In the first place, back trouble associated with uterine displacement, lacerated perineum, etc., rarely occur in women who do not wear ill-fitting, high-heeled shoes or high laced corsets. Of course, the riposte is obvious as most women follow the prevailing styles, but the fact remains that the peasant women of Europe and the poorer classes in this country suffer quite as much or more from such pelvic disorders as their more fortunate sisters; yet, in comparison, are far less persecuted with chronic "back trouble," and as we know well enough, this class does not effect the narrow, pointed, high-heeled shoe, or the bust reducing corset as a fixed habit. In large centers

of population young sales and factory girls who effect the latest styles in footgear and other female impedimenta are constant sufferers from some form of backache. Here surely uterine disorders cannot be invoked as primary causes. Secondly: If pelvic and kindred troubles were primarily responsible for chronic back conditions the one should invariably follow the other as cause and effect. That this is not true is a matter of common knowledge. Again, if such derangements were even the chief offenders, their correction would eradicate the evil. Unfortunately such results by no means follow, as every gynecologist knows. Some few are benefited; others are made worse through operation, while the majority simply remain in *statu quo*; temporarily improved perhaps while carrying out the imposed regimen incident to the operation, but a return to former living conditions ushers in the same old trouble.

Menstrual disorders and abnormal incidents of child birth, especially untoward separation of the symphysis pubis, are responsible for a modicum of backaches; temporary for the most part, which readily go on to a cure when the cause becomes inoperative or is removed.

Evidently then, those factors heretofore assigned as potent causes, especially of the trouble under consideration, operate for the most part as secondary and complicating agents; never as primary causes in static back trouble and very many such cases operated on for a cure would have fared much better in that regard had more attention been paid to other factors. But we are all desirous to "get our hands in the belly"—to become great surgeons, and the glamor of operative work often overshadows the less spectacular and more humble methods of treatment. We are prone to follow the broad and well-marked way, sanctioned by long established custom and use and hallowed by the footsteps of a host of noted surgeons, gynecologists and lesser lights; yet the contention is made and the writer believes abundantly susceptible of proof, that the majority of cases of chronic back trouble in both men and women are of static origin and should be so dealt with, and in the diagnosis of any back condition this possibility should be constantly borne in mind, for the correct differentiation of the various forms is absolutely necessary to their successful treatment.

In making a diagnosis the following points must always be considered:

1. *Whether the condition is acute or chronic; periodical or constant.*

Acute conditions obviously can be eliminated. Periodicity may occur in the earlier stages, but it should be noted whether this follows certain lines of work; exercise, changes in temperature or point of time, as the menstrual periods, etc. As a rule, this form of back trouble is slow and insidious in approach, not incapacitating at first, nor markedly uncomfortable. The significant fact is that it persists regardless of routine curative measures. When the patient is relaxed or at rest the pain and discomfort is lessened or relieved, only to return upon the resumption of activity. This form of back trouble is chronic in character; the pain and discomfort more or less constant, accentuated under stress and fatigue, a surcease following relaxation and rest; periodical outbursts coincident with untoward or prolonged physical effort or sudden occupational change, and its course unaffected by the ordinary methods of treatment.

2. *The presence of painful pressure points.*

Such points may or may not be present, and are not pathognomonic. Their occurrence is due to muscle strain and are not deep seated as a rule. They usually follow the course of some muscle or nerve, most frequently the longissimus and multifidus spinae and the lower intercostal and gluteal nerves. If deep seated the periosteum and deep ligaments, either one or both, are involved. Traumatic involvement of some vertebra as a fracture, localizes the pain over the affected spot and the sudden onset, with a history of the accident or violence suffices to make the diagnosis.

3. *The effect of movement upon the character of the pain.*

In many of these cases the pain either stops altogether or becomes very much lessened when the body is at rest. If the cause be faulty working attitudes a change to the normal position often has the same effect. So, also, relative to walking, standing or sitting. In any case the condition is aggravated by the ordinary work-a-day affairs, for here the causes that generally produce the trouble or at any rate, keep it alive, are constantly operative. A change from the high to low heeled shoes often increases the backache temporarily, and likewise causes pains

in the calf muscles; the former because of a weight shifting to dormant muscle groups and the latter on account of the contracted heel tendon being put on the stretch.

4. *The presence of some specific organism.*

In this connection the tubercle bacillus, typhoid bacillus, pyorrhea, syphilis, gonorrhea, Shuler's organism, and others should not be overlooked. Whether the last named agent has anything to do with the causation of certain deformities of the spine has not been determined. That it does cause a low grade arthritis in other joints is well established. Spondylitis deformans in young adult and middle life is by no means uncommon, the etiology of which has not been worked out. It is possible that this or some kindred organism may be the cause. Be that as it may, this disease in its early stages closely simulates static back trouble, especially if its line of attack involves the dorsi-lumbar spine. The x-ray, however, will clear up any doubtful cases. The acute infections especially in childhood are sometimes responsible for sub-acute or chronic back troubles. This form is rare and the history, character of the onset and subsequent course makes the differentiation easy.

5. *Involvement of special organs as the stomach, liver, bronchial and mesenteric glands, etc.*

Here the condition is usually acute in character, of definite onset and secondary to other and for which the patient seeks medical aid. The more pathognomonic symptoms. It should not be forgotten, however, that the back pain is quite often the earliest symptom here and the one site of the pain in most cases suffices to differentiate this trouble, being confined for the most part to the cervical, cervico-dorsal and mid-dorsal spine. In enlarged mesenteric glands, as also in certain injuries to, and diseases of, the kidneys, the pain may be localized in the dorso-lumbar region.

6. *Lumbago and the Neurasthenic Spine.*

These two conditions are often confused and both frequently mistaken for static back trouble; or rather, the latter is far more frequently diagnosed as one or the other of the above. The differential diagnosis, however, should not prove difficult. Lumbago is frequently met with; common to both sexes but more frequent in the male. The onset is sudden, the region involved usually the lumbar spine; the pain radiating laterally and pressure points always present. The neu-

rasthenic spine occurs chiefly in neurotic, hysterical women; no pressure points; location the sacral region; the pains spreading upward; their severity depending largely upon mental states, mental diversions often not only lessen but actually abrogate the pain temporarily. Careful examination and history taking should easily differentiate these disorders not only from each other, but from other back conditions as well.

The whole question of diagnosis in point of fact devolves upon a careful and painstaking examination and as a corollary thereto, the avoidance of routine. No thorough examination can be made without the patient being stripped to the waist and it is far better to have the clothing removed altogether. A careful history taking is fully as important as the physical examination; for many of these cases offer but little help clinically. The x-ray affords some help, but here disappointment frequently lurks, for more often than not the plates fail to show the slight mechanical changes present. Whenever possible comparison should be made with a normal plate.

In the treatment the all-important factor is the removal of the cause. At times the search may cover a wide range and prove elusive; then again, it may involve only one or two obvious factors. At whatever cost in time and patience the cause must be found and removed to insure success. Nature here does not come to our rescue as in many other conditions to help us out of the difficulty. The removal of the cause may be all the treatment required. If, however, the static changes are marked or of long duration, other measures must be instituted. Immobilization of the affected parts; supporting and corrective devices; mechano and hydrotherapy; heat, massage and electricity are often necessary adjuncts to the treatment.

Electricity while apparently beneficial in some cases has not as large a field of usefulness here as elsewhere. Its effect being chiefly psychic. Heat and light are better than heat alone, and the violet and other colored rays do not seem to possess any virtue over the ordinary white electric light. A four-light Badeker baker or similar contrivance is all that is required. A frame large enough to carry four lights arranged in pairs and covered with a towel can be improvised whenever needed and answers the purpose as well as more elaborate apparatus. The heat and light should be applied from twenty to thirty

minutes to the uncovered parts, followed by gentle massage. Avoid all violent and strenuous manipulation. Do not attempt to reduce any supposed "dislocated vertebrae" or put your patient through muscle-racking contortions. The object here is to soothe, sedate and relax the already irritated and over-sensitive tissues. There may be some conditions requiring violent manipulation, but this form of trouble does not belong in that category.

We all know the difficulty experienced in attempting to reduce a recent fracture or dislocation without anesthesia. This trouble runs parallel, differing only in degree, and severe manipulation is not only painful, but defeats the very purpose for which it is intended. The Scotch douche, whirlpool bath and the ordinary bath with massage, especially where pronounced muscular irritation is present, or there exists a tendency to spasticity will be found useful. Many of these cases will require some immobility, more frequently in sacroiliac joint strain. In severe cases rest in bed and the plaster cast are indicated. The cast to be successful should be applied over a thin gauze shirt; no padding. It must fit very snug, and if there is much padding it soon becomes impacted, the cast works loose and its effectiveness destroyed. In the less severe and ambulatory cases the binder will suffice. This should be made of light leather or stout canvas, cut to accurately fit the body, made to lace instead of hook or button, with sufficient space to take up any slack, and provided with pressure pads over the seat pain. Strapping with adhesive tape is a good temporary makeshift, but nothing more. It is rarely if ever put on tight enough and soon gives way to the force encountered and becomes too loose for any good. It is only practical in sacroiliac joint cases and to be at all effective must encircle the body. Never place higher than the rim of the pelvis and should extend as low as the trochanters. This level need not be maintained in front, but always so posteriorly. To hold an adult this form of bandage should consist of at least six layers of the width of four inches. Such a bandage will hold for three or four days; longer if the cases are put at rest. Other and more elaborate apparatus such as splints, braces, etc., may occasionally be required, but for the most part the above will meet all requirements, for, be it remembered, our success is by no means

always commensurate with the complexity and cost of the devices employed.

The main points to bear in mind in the management of these conditions are:

To remove the cause and restore the affected parts to their normal condition, the rapidity and success of which depend upon the merits of each particular case and the ingenuity and resourcefulness of the physician in charge. Many of these cases are frankly orthopedic at the outset in that they require little or no medicinal treatment and must depend for a cure upon extraneous measures, frequently involving the use of apparatus and the correction of malpositions and deformities.

The object of this paper is to press home the following points:

1. The necessity for a scientific classification of the various forms of back trouble.
2. A careful and painstaking examination, especially history taking.
3. The avoidance of routine methods in diagnosis and treatment.

In his weak way and manner the writer has attempted to point out the need of a closer study of back troubles in general and a more systematic adherence to the lines laid down. The scientific value of this paper is, perhaps, little. The writer lays no claim to the discovery of any new theory or principle; whatever facts contained herein probably all of you know well enough. Their grouping, however, may present a new dress and arrest your attention. Sufficient to cause you to weigh the merits of any contentions set forth. If, mayhap, such ends shall be obtained this paper has served its purpose.

1516 Chemical Building.

SUGGESTIONS ABOUT COMMUNITY MENTAL HEALTH DEPARTMENTS UNDER STATE MANAGEMENT.*

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Introduction: This paper deals with certain means herewith suggested to reach the mental problems of a community. Recently a laudable advance has been made in this direction in the attempt to provide after care for the insane.

*Read before the Indiana Society for Mental Hygiene, Indianapolis, 1917.

There are other important provisions showing healthy interest in this local move, namely: voluntary admission to hospitals for the insane, temporary care for urgent cases, etc. But let us recall that *new and added* mental health problem of the returned soldier psychopath which has received so much well deserved attention before this society. The mass of these poor fellows includes not only the insane, but those who have been stamped in the Army and returned to the community as feeble-minded, epileptic, hysterical, neurasthenic, degenerate and criminal, but please note these are but representative of what are found in any community at any time, whether at war or at peace.

All Are Alienates: Now let us ask, are these truly various separated groups or are they not, when taken together, simply one great mass of unfortunates afflicted with disease of the brain? Does not the domain of their various troubles fall within the province of the alienist who cares for all the mentally afflicted? If the state is to protect them and hence itself, why not provide adequate machinery for the job and place it in the hands of those chosen as heads of our public hospitals because of special education and training in psychiatry and administration?

Mental Health Department: In short and in view of this suddenly added problem, I suggest the advisability of adding correspondingly a broadening feature to the voluntary admission, early treatment, and after care field of the insane, and institute thereby a complete social and Mental Health Service in the State Hospital System. Other state departments may well co-operate in this broad problem. For instance, in Indiana the department analogous to the Illinois Department of Public Welfare; the Department of Education; the Department of Public Health; the Judiciary, with the probation system, and the Board of Public Welfare Commissioners. But the work must be done by skilled alienists with the advice of officials from the other departments and with the aid of a corps of trained Mental Health workers analogous to the group of social service workers attached to general hospitals.

Principles: The principles covering the field of mental hygiene may be considered and determined just as in these modern days a general plans in advance and from afar the broad principles on which the approaching battle is to be fought.

Application: In the same manner the principles of action must be applied in such manner as to make specific use of the latent powers of the various units of command in their own particular localities.

In brief, the community battle may be planned from afar at an administration center, but it must be executed at particular local places and in some particular manner. So to no small extent the sum total of success to be achieved by Mental Hygiene must be due to the directed efforts of individual workers in a restricted field or community.

Means to Employ: Granted that this community form of attack is the best at command, the question arises, what means to employ. It is my own opinion that the problems connected with this work may best be met in a community by a paid worker with an organization. This worker will need a paid organization at least in part, but the work can well be supplemented through the efforts of voluntary workers, and last, but not least, through the aid of local welfare workers and local public officials. *The aid of these local officers, especially the country judge, is imperative to the success of this work;* one of the keys to success will be found to lie in the field of diplomacy.

It has been found best to attack the general hospital social service problem along these lines and what is Mental Hygiene if not a social effort, only perhaps on a broader scale? It seems to me the more one studies poverty and crime the more one is convinced that these are near related as mental conditions to insanity, feeble-mindedness, and nervous instability. So as I say, the community field for Mental Hygiene seems to be of the broadest type. Realizing this an enlightened and enthusiastic Mental Hygiene worker may develop her work to the widest possible scope if the various principles governing local matters and conditions are approached with an exhibition of good judgment.

The Field: Now just a little discussion concerning the field for a Mental Hygiene worker in a community. That the field is broad may be taken for granted. The limits or lack of limits spoken of above fully indicate this. Adolf Meyer has said that 2 per cent. of the entire population are in need of mental adjustment. This statement seems to include a large number of people, but I believe the proportion is too small, rather

than too large. If only a small part of these come to the attention of the local organization it will be busy indeed with the mechanisms needed to meet the various needs of the several groups of alienates.

Qualifications for the worker and how she may come into contact with her problem: Let it be assumed the principal Mental Hygiene worker of a community is an intelligent social worker, preferably a trained nurse who has been employed for the purpose by the superintendent of the state institution for the insane of that district. Coming from such an institution and handling the problems connected with the insane, feeble-minded and others, it would seem far best to have this worker fully acquainted with the problems met in state institutions. In other words, she should have had experience in such institutions. At first sight it may seem to this worker that her chief duty lies in the care to be accorded the paroled and perhaps discharged insane people and their families; paroled boys and girls from the state schools whose cases are referred; prisoners on probation, also referred.* These may indeed prove a good foundation or starting point for the entire work. She will soon find, however, that her manifold relations with these groups of mental cases will bring her into contact not alone with problems of "semi-insanity" or insanity amongst those paroled and on probation, but also with various financial and social problems (social service) that run along together with alienation. She will find, for instance, that a family containing a known insane individual may covertly contain a drunkard or a criminal or a case or two of feeble-mindedness. As there is a strong mental taint in any family more or less of this character, we may expect to find low producing power, poor spending judgment, and low standards of living with problems of finance and hygiene. Moreover, it is found in a group where the men are criminals the women are loose characters and hence we may expect the prevalence of one or more specific diseases. The presence of the latter alone will often prove sufficiently perplexing to any social service or Mental Hygiene worker. The prevention of the spread of these diseases undoubtedly falls within the province of such worker for reasons that are well known to

all connected with this work. Barring heredity, it is generally conceded that alcohol and syphilis are the two most potent factors in the production of alienates and other dependents. Both causes are preventable and hence in specific instances are in the field of the community problem of the Mental Health worker.

Being on the ground these workers will locate and duly *register* all the feeble-minded and other alienates of each community and file records at some central office.

In the early days of her activity if the worker has nothing more important to do she may call at the almshouse. She will soon find that there are points of interest to the mental hygiene worker in every almshouse. The intelligent keepers will usually say in reply to the question, "Are there any feeble-minded here?" "Well, yes, there are and to tell you the truth, I believe they are all feeble-minded." Close inspection of the inmates will show that this is rather a loose general statement, but nevertheless, it shows a keen perception of the broadness of his problem as seen by the keeper. It is undoubted that 60 per cent. of the inmates are really insane, feeble-minded or epileptic; the other 40 per cent. are largely the victims of alcohol and syphilis, but many also with defect; the true number of the so-called "worthy poor" is remarkably small. Thus at the almshouses the mental worker may find the starting point of as many family lines of degeneracy as there are individuals under care.

Then in due time the jail must not be neglected. Within recent weeks I have seen several young men in jail for stealing automobiles. In every instance the individual was feeble-minded or else came from a family with strong taint. Then right here the social worker may find some unfortunate insane man who has been locked up pending commitment; or an unfortunate held for many weeks pending return to his home in another state; or a worker of perception may frequently find a paretic or other insane individual charged with disorderly conduct or crime and may help to protect his interests by calling the facts to the attention of proper authorities. In the jail as well as in the almshouse she may frequently find feeble-minded girls of child-bearing age who are so much in need of her care and protection (and ultimate disposition) for the interest of all concerned. Many a terrible tale concerning the latter come to the ears of any

*A recently visited Psychiatric community service receives such referred cases from every state institution of psychiatric nature. This indicates full co-operation cheerfully given.

observer who has occasion to visit these various local public institutions.

Then the subject of marriage must be considered by the worker, not for herself, but I mean concerning marriage amongst the unfit whom she will find within her jurisdiction. Should a feeble-minded woman marry an epileptic? All will say no and yet I know of such an instance and the public has been supporting the man and the woman and the fairly numerous offspring. I also know of an instance in which a public official encouraged the marriage of a syphilitic negro with a feeble-minded white woman, both inmates of a public institution, and the woman already the mother of several illegitimate children. Every case of this kind starts a potential Jukes strain and the mental health worker must use her power and influence to prevent these misfit unions. Note the already mentioned need of securing active co-operation from the county judge and other officers.

Mental Clinics: The contents of the last sub-head suggests the need of community mental oversight and mental clinics with registration of all mental cases of any and all kinds whatever. With the clinics lectures are recommended. A General Hospital psychopathic pavilion is much to be desired and worked for.

The Solution of Problems: It must not be imagined the worker may handle the solution of all these troubles for she can not. She may learn the facts and then call on her superior officer for advice and direction. Acting under him and under the further advice of the county judge, state's attorney, local welfare workers or other local officers, some may have to be ordered to various institutions and others with the worker's aid and personal care and watchful oversight she may be able to have maintained at home. Each case must be decided according to the factors at work. Observation cases should be kept in the Psychopathic Pavilion.

Danger: A danger may be avoided by recognizing in advance the scope of this work, thus escaping the tendency to prescribe too large a district for any one worker.

Relative Value: To general hospitals the value of social service is so great that whereas ten years ago the number of social service departments could be counted on the fingers of one hand, today they are to be found attached to more than a hundred hospitals with the number increasing. There

the service is medical and advisory only and hence is more limited than here where the state has a financial as well as a humane interest at stake and financial aid to advance. How much broader in scope is this suggested field for state work!

This Is a Medical Problem: All of life's activities can be measured in terms of mental medicine and where abnormal, a medical remedy can be applied. This offers an opportunity to approach a problem that has distracted civilization for many years and to solve it by bringing personal care to all alienates, wherever they may be, in their communities, through the action of a medical organization. Being in the nature of preventive medicine, medicine in its highest sphere of influence, any cost in dollars and cents is more than offset by the disease, suffering and ultimate cost that neglect throws onto the commonwealth.

The Logical Solution: Advanced Mental Hygiene sentiment says any state that long neglects to meet the needs of the dependent classes with something approaching this sort of care and with state hospital outdoor patient departments and community clinics, lays itself open to the charge that it is not doing its full duty. The day when any state hospital's influence ceases at the border of the farm should be passing and it can not pass too rapidly. On the other hand, the superintendent with this dual organization, within and without, may well care for the mental state of the communities of his district. These officers, as a rule, are found capable and eager, but they lack power to act and means of operation, and these must be furnished them; 1, by means of new statutory enactment; 2, through the necessary financial assistance which, however, will be returned vastly enhanced. These two enabling means are for your society to strive after in order to consummate this or some similar plan.

Please note that amongst its advantages this plan has one that calls for more than passing attention, namely, that no new and expensive state mechanisms are called into being. The plan is meant to be utilitarian.

Deputy Attorney General D. J. Myers of Pennsylvania, recently rendered the decision that "osteopaths have no right to vaccinate nor issue certificates therefor, nor have they the right to issue certificates setting forth that a child has been properly vaccinated or vaccinated in accordance with the regulations of the Department of Health."

CLINICAL PROBLEMS RELATING TO CHRONIC SUPPURATIVE DISEASE OF THE MIDDLE EAR.*

GEORGE E. SHAMBAUGH, M. D.,
CHICAGO.

One of the clinical facts brought to light in the examination of recruits was the rather large number of cases of chronic suppurative otitis media which were not receiving any medical attention and which often had never been under treatment for their ear trouble. Not a few of these cases were unaware that they had any ear disease. This was particularly true for cases where the discharge was so slight that it did not run out of the external meatus and where the defect in hearing was only moderately developed.

These facts suggest that the general public is probably not sufficiently informed as regards the possible dangers from chronic otorrhea, and further, that the general medical profession probably finds it difficult always to keep abreast of the advances that are continuously being made in the several specialties, and for this reason does not have a very clear conception of the clinical problems relating to this form of ear trouble.

There is, perhaps, no chapter in the history of otology more interesting than that which relates the development of our knowledge of the clinical facts of otorrhea. There certainly is no other form of ear trouble which constitutes so great a menace to the welfare of the individual as does this disease, and none where the otologist is more sure that his investigations have brought him to a satisfactory solution of its clinical problems.

The time was when chronic otorrhea was looked upon as Nature's method of cleansing the system of harmful substances. It was considered a distinct danger to the patient to have the ear discharge cease. This conception had its origin, no doubt, in the well-known clinical fact that when a complication develops in cases of suppurative ear disease, as, for example, an intracranial extension of the infection, the discharge from the ear, which may have been quite profuse, often suddenly stops. This cessation of discharge often precedes by a day or two the development of distinct symptoms of an intracranial complication. We know now that the complication is not the result of the cessation of

discharge, but is rather the cause for its disappearance.

A great many serious, often fatal, intracranial complications, such as sinus thrombosis, meningitis and brain abscess, owe their origin to the existence of a chronic suppurative otitis media, which at no time had caused the patient any annoyance, except possibly a moderate defect in the hearing. Often the discharge was so slight that at times the patient was not aware of its existence. When the facts regarding the serious menace from chronic otorrhea became known, it was apparent that the old policy of leaving a running ear alone was a mistake, and that every effort should be made to cure the otorrhea and end the discharge. It was found that not a few of these cases could be cured by conservative local treatment, but that other cases did not get well under this form of treatment, no matter how long and faithfully it was carried out. Otologists, thereupon, began to devise surgical measures, aiming to cure these intractable cases of persistent otorrhea. First it was believed that the chronic nature of the disease was due to faulty drainage through the tympanum, and, to correct this, the operation for removal of the ossicles was devised. It was found, however, that only very few of the cases that could not be cured by conservative local treatment were cured by having the ossicles removed. The operation on the mastoid, for the cure of mastoid disease complicating acute suppurative otitis media, had already been worked out. Efforts were made to keep the opening in the mastoid from closing for an indefinite period. One means was by placing a lead nail in the passage from the antrum to the attic. The object of these efforts was to allow the focus of infection to heal by keeping up the drainage through the mastoid. Very few cases of chronic otorrhea which resisted conservative treatment were cured by this method. It became apparent that somewhere between the tympanum and the mastoid opening, that is in the attic, the aditus or the antrum, was a focus of disease which must be eradicated before the chronic otitis media could heal. It was to accomplish this that the radical mastoid was developed, an operation which combined a complete exenteration not only of the tympanum and the antrum, but of the attic and aditus as well, leaving one large cavity to be covered with epidermis from the skin lining

*Read before the Chicago Medical Society, Jan. 28, 1920.

the external meatus. The operation, when successfully performed, will eradicate the dangerous focus and in most cases bring about a cessation of the chronic otorrhea. In those cases where a discharge still persists, it comes, as a rule, from infection of tubal cells in the osseous portion of the Eustachian tube, but does not constitute a menace from possible intracranial complications.

The conclusions reached at this time regarding chronic otorrhea were, first, that chronic otorrhea is a serious menace, owing to the frequent occurrence of serious, usually fatal, intracranial complications; second, many cases of chronic otorrhea can be permanently cured by conservative local treatment, and that by the radical mastoid operation it is possible to cure intracranial cases which could not be influenced by conservative treatment. It might seem a logical conclusion that in all cases where local conservative measures failed to cure chronic otorrhea in a reasonable period of time, the proper course would be to proceed with the radical operation. Such, however, is not the conclusion we have reached. It has been found that cases of chronic otorrhea can be separated into two rather distinct types. In one type the disease is limited to an involvement of the mucous membrane lining the middle ear chambers; in the other, the disease has extended to and involved the underlying bone. It has been found too that it is only the latter type, those where the bone is being invaded, that a serious menace from intracranial complications exists. By no means all of the cases where conservative local treatment fails to check the discharge are cases where the disease has produced an invasion of the bone. In view of these facts, it became at once apparent that the decision to operate on all cases of chronic otorrhea, where the disease was not checked by local measures, was not justified, especially since in many of these cases the disease was not a menace to the life of the patient, and because the radical mastoid operation often results in a more or less serious increase in the defect of hearing.

The final clinical problem that presented itself to the otologist to be solved in these cases of chronic otorrhea was how to make a clinical diagnosis between the cases of chronic suppurative otitis media which involved only the mucous membrane and those where the underlying bone is being invaded. With this diagnosis made, we could feel secure in our conclusions regarding the proper course of treatment. Local conservative

treatment should be persisted in as long as the disease was limited to changes in the mucous membrane, unless some unexpected complication arose, as the result of an acute exacerbation. Radical surgical measures are applicable only to cases where there is a bone-invading process, and not even all of these cases require radical surgery.

The diagnosis between the simple and the serious cases of chronic otorrhea presents usually no great difficulty to the experienced otologist. It can often be made at a single examination. In other cases careful observation for days or even weeks may be necessary.

Neither the amount of the discharge nor the degree of the defect in hearing is an indication as to whether we are dealing with the simple or the serious form of middle ear infection. The character of the discharge, however, does give a very definite clew. In the simple form the discharge is usually more or less mucousy and has very little offensive odor, especially where local cleansing treatment has been carried out. Where this has been neglected there is usually a more or less offensive odor to the discharge which, however, will promptly disappear in a few days, under proper treatment. Where there is a bone-invading process there is usually present a penetrating offensive odor, which cannot be entirely eradicated by any amount of local treatment. Even in cases where the discharge is so slight that no moisture can be detected on the cotton swab used for wiping out the tympanum, the characteristic odor of a bone-invading process can still be detected on the cotton.

The bone invading disease is either in the form of a caries, a sequestration, or the result of a cholesteatoma formation. The discharge, where the otitis media is complicated by caries, is more or less granular and lacks the mucousy character of the simple cases, except as the chronic process may be complicated from time to time by an acute exacerbation. In sequestration the discharge is most profuse and offensive. In cholesteatoma formation the process can be detected by the characteristic whitish flakes seen on examining with the otoscope or in the washings after irrigation.

The diagnosis between the simple and the serious types of chronic otorrhea can usually be made very readily by the experienced otologist, by making an examination with the otoscope. Here neither the size of the perforation in the drum membrane nor the presence or absence of

granulations or polyp formations is characteristic of either process. The relatively harmless form of chronic otorrhea often presents a practically complete destruction of the membrane tympani and is not infrequently complicated by the presence of granulations and polyp formations, after the eradication of which the process may quickly heal. Characteristic of a bone-involving process is a marginal perforation of the drum membrane. This may be small, especially when it involves the region of Shrapnell's membrane at the upper pole. The place where the perforation extends to and involves the bony margin is usually in the upper posterior quadrant or in Shrapnell's membrane. Where a true marginal perforation exists, an invasion of the bone is always present. Not every case where the underlying bone is invaded should, however, be subjected to the radical mastoid operation. There are cases where the disease of the bone is restricted to the walls of the tympanum, when it can be cured by local conservative treatment. There are cases too where the disease is restricted to the attic, with involvement of the ossicles, where only local measures, or at most ossicectomy is justified. There are exceptional cases, moreover, of extensive erosion of the temporal bone, as the result of an extensive cholesteatoma formation in the aditus and antrum, which do not require surgical treatment. These are the cases where the condition has produced a large opening into the external meatus, with spontaneous extrusion of the cholesteatoma and a practical healing of the bone disease. In some cases where there is unquestionable involvement of the temporal bone, the question as to whether conservative or radical treatment should be employed will tax the skill of the most experienced otologist.

SUMMARY OF CONCLUSIONS.

1. Chronic suppurative otitis media is a disease which constitutes a serious menace because of the danger of serious intracranial complications.

2. Many cases of chronic otorrhea can be cured by conservative local measures.

3. Cases of intractable otorrhea can usually be cured by radical surgical measures.

4. Radical surgical measures are not indicated in all cases of chronic otorrhea which resist local conservative treatment.

5. Cases of chronic suppurative otitis media can be separated into two types: first, those where the disease is limited to the mucous membrane lining the middle ear chambers, and second, those where the disease extends to and involves the underlying bone. It is only in the latter where the danger of a possible intracranial complication constitutes a menace.

6. Cases where the disease is restricted to the mucous membrane lining the middle ear chambers call for local conservative treatment, even though by these measures it may not be possible to bring the discharge to a complete cessation.

7. Radical surgical measures for the cure of chronic otorrhea are indicated only in the relatively few cases of this disease where the process extends to and involves the underlying bone, and not all of such cases justify radical surgical interference.

8. An experienced otologist is now able to differentiate the dangerous cases of chronic otorrhea from the simple non-dangerous type.

THE INDUSTRIAL PHYSICIAN OF THE FUTURE

"Not only must the industrial physician of the future rid himself of the designation of the 'Company Doc,' the appellation of an official who took care only of what came his way, but he must be able to interpret industrial processes, understand the operation of mechanical appliances, size up the human requirements for filling a certain job, make scientific studies of the hazards of occupations, make certain that proper working conditions are provided for the industrial population, and interpret these findings in terms of increased production, decreased labor turnover, and healthier and happier workers. He should also be able to tune up the home, community, and industrial environment, so that each would bear its part of carrying forward the great commercial life of the Nation.

"The human engineer comes into intimate contact with four departments of an industry, namely, employment, safety, medicine, and welfare. If he is fulfilling the obligations of his position, he must know intimately and well the workers of each branch of this group. By making a physical examination of applicants for employment he exerts a direct influence upon the placing of workers. If he properly follows up accidents, he comes in contact with the safety department. Of course, he dominates the medical department, and if he has the proper interest in the worker away from his factory job he must be familiar with what is being done in the home and community environment of the worker."—*F. L. Rec- tor, Acting Assistant Surgeon, U. S. P. H. Service, in "Public Health Reports."*

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MARCH, 1920

Editorial

YOUNG AT NINETY

The postponement and banishment of old age has been the dream of mankind for thousands of years. The old-time alchemists spent long toilsome days in fruitless search of the philosophers' stone, which it was confidently believed would transform the old man into youth.

When does the average individual begin to grow

old? How long can the execution of the death sentence be postponed? This question was in effect answered three thousand years ago when the psalmist said "The days of our years are three score years and ten."

In the light of our present-day knowledge of causation of disease and methods of prevention, is the old age limit of three score years and ten dating back from David, to remain our normal standard still? Positively not. That the limit of life in healthy people who have lived temperate careful lives should be a long way beyond three score years and ten must be considered certain. Everybody ought to and can live to be 100 years old, provided they live right. The average duration of life and working years is steadily increasing, and their limits and possibilities are not yet in sight. The normal of today should go on steadily growing into the subnormal of tomorrow, when possibly we may have to think in years or centuries in place of days.

That industry and commercialism are keeping the youthful spirit alive is being exemplified daily.

Not only by Dr. Osler himself, but by men in every walk of life is the theory that men should be chloroformed when they reach the age of sixty, being disproved.

He who places stress on age limit for accomplishing things has only to look at the following examples of men and women past eighty in the very prime of life.

John Shell, Leslie county, Ky., 131 years old, said to be the oldest person living, hale and hearty, in full possession of all his faculties; frequently rides horseback twenty miles a day. His oldest child is a daughter ninety-seven years old.

In Prussia there lives today a woman who just completed her 125th birthday; one son died recently at the age of 89, another in 1910 at the age of 100, a daughter died the day the mother attained her 125th year, aged 94. She had, in all, ten children; her married life has extended over 85 years; she was married at the age of 15. She possesses a marvelous memory; at 120 she remembered perfectly the Napoleonic wars and prominent officials of Prussia consulted her as to happenings which were matters of historical dispute in Germany. Ten years ago, in order to confirm his dates, an Italian historian traveled to Prussia

to interview her at the suggestion of the keeper of the archives in Potsdam.

Mrs. Katherine Wieliski, of Milwaukee, who died September 2, 1919, age 109 years—strong and vigorous long after she reached the century mark.

Mrs. Margaret E. Edminson, Mt. Vernon, Ill., the 1920 census shows is 120 years old and is well preserved. She doesn't wear glasses and is in full possession of all her faculties.

Mrs. Mary A. Potter, Dwight, Ill., 106 years, still has a keen knowledge of the five great wars the United States engaged in.

Mrs. Ed. Glennon of Dane county, Wisconsin, died a few years ago, age 105, retaining health and vigor until a short time before death.

James McGowan, Wilton, Ill., age 104 years; mind clear, physically strong; walks four miles nearly every day; frequently walks six miles; looks younger and better than he did thirty years ago in the estimation of his friends.

John Harouff, of Chicago, who celebrated his 104th birthday last month, was a farmer until eight years ago; he is in full possession of his faculties and in good health.

Mrs. Anna Casperson, of the Norwegian Lutheran Bethesda Home, Chicago, 103 years old, has worked hard from childhood until the present time. Work is her recipe for long life.

Mrs. Anna Burian, Chicago, 103 years old, 4948 S. Seeley Ave., hale and hearty, who sees unaided by spectacles. She says it's the climate.

Timothy Carmody, Aurora, 103 years; hale and hearty. Gives good, clean living as the secret of longevity.

Bancroft Abbott Bailey, 101 years old; old resident of Chicago, died a few days ago, hale and hearty up to the beginning of his last sickness.

A. Cohen, 6441 S. May street, Chicago, who died September 20, 1919, aged 101; never required the services of a physician until last illness, which extended only over two days; remained actively in business until he was ninety-two years old; read without glasses until time of his death.

Mrs. Bridget Mulligan of Aurora, one hundred years old, still hale and hearty, celebrated her one hundredth birthday anniversary in February this year.

Mrs. Anna Miles, 6406 Maryland avenue, Chicago, 88 years; young in appearance, vigorous and

energetic, mind clear; has the memory of a girl; takes a keen interest in affairs, reads everything, can talk intelligently on any subject, is as well posted on the recent war happenings as any person in Chicago.

Mr. Thomas Barron, 1428 Jarvis avenue, Chicago, 87 years; clear, alert, one of the best informed men in Chicago and will match wit and repartee with any young man.

Mrs. Celia Bessant Snudden, 83 years old, mother of eleven children who married a second time on her 82d birthday, January 24, 1920.

John R. Voorhis, grand old man of Tammany, who celebrated his ninetieth birthday recently in New York.

Four score years and ten! What a glorious age when health and vigor are faithful companions. Mr. Voorhis at 90 is president of the board of electors—the oldest public office-holder in New York and perhaps in America. In the last twenty years he has not been absent from his office excepting on one occasion and that was to attend a funeral. At ninety, with frame still unshackled, with ready mind and clear eye, with the vigor of sixty-six, a step of forty and a mind of thirty-five, a power in politics, an active servant of the people, guiding an important branch of the city government seems incredible.

Henry Clifton Goodrich of Chicago, age 87, who went to work the other day on a four-dollar-a-day job to recoup his fortune.

Mr. Goodrich, inventor, who brought out in the last thirty-five years over one hundred patents on sewing machine attachments, once a millionaire, lost his money in speculation in real estate, and at 87 has gone to work to make it over again. This eighty-seven-year-old boy is said to have remarked: "I am not more handicapped than I was in childhood. Although my grandmother lived to be one hundred and six, both my father and mother died when I was six years old, after they had gone with me to Chicago."

These men and women have done what heretofore seemed impossible, disproved the incredible and conjured custom or rule by physical evidence which cannot be contraverted. Their lives illustrate the possibility of retaining physical and mental vigor to approximately the century mark in spite of the handicap of years. All of which goes to show there really is no age limit and that

the old saying, "a man is as old as he feels" is exemplified daily.

How much beyond three score years and ten should people today aspire to live? The examples cited above, most of them personally known to the writer and his acquaintances, shows many men and women over 90 in possession of their mental faculties. As sanitary, physiological and sociological science grows, so must the duration of man's life. Ninety years should be our lowest ambition.

Some years ago M. Flourens claimed to have discovered the answer to the question of possible longevity. Taking his observations from the group Mammalia, of the class Vertebrata, as having the closest resemblance to man, and of such species as are permitted to live under circumstances not admitting of error or doubt, he found that their natural life extended to exactly five times the period of their growth.

Applying the rule thus obtained to human life and taking the age when the body is fully matured to be 20 years, he concluded that the natural duration of the life of man was one hundred years.

Dr. T. Bodley Scott, a noted English physician, in his recently published book has given an interesting scientific formula to answer this question, as follows:

The time or number of years it takes an animal to arrive at full maturity regulates the length of life. An elephant takes forty years to get fully matured; multiplying that by two and that roughly represents the period of full strength. Another similar period represents his gradual decline; thus, forty plus eighty plus eighty makes 200 years, which seems to be his limit. A dog takes two to two and one-half years to get fully matured; two and a half plus five, plus five, makes twelve and a half. A horse, five plus ten, plus ten or twenty-five.

A man arrives at maturity about twenty. His life should, therefore, be twenty plus forty plus forty, which makes 100.

Most of us die young in one sense—die long before the age we might attain; and "die old" in another sense, since our arteries, tissues and general health are frequently attacked by premature senility. While old age and death are inevitable, that miserable fiasco we call senility is not a law of nature. It is, on the contrary, evidence and proof that the law has been broken by ourselves,

by our forebears, by both, and it emphasizes the importance of the inheritance that we hand on to our successors.

The principal cause of death should be old age, the natural maturity of the organism, the gradual and irreparable wearing out of the vital machinery; yet if we consult tables of vital statistics we find that disease constitutes over ninety-nine and nine-tenths per cent. of the recognized causes of death. If disease is thus in reality as it is apparently the principal agent of death, it is obviously on the prevention of disease that we must concentrate our efforts in the future.

While disease is the principal agent of death, we must also bear in mind that it is often facilitated in its work by age or enfeeblement which gives it a foothold and incapacitates the organism for resisting its activity.

For generations, both as individuals and as a race, we have done much to shorten life, by over-feeding generally, by over-stimulation often, and by living and sleeping in close, badly ventilated sunless, insanitary houses.

The most unfortunate thing about man at the present time is his lack of understanding of the vast possibilities for health and happiness that science is offering him. If disease prevention were better understood it would then be possible to raise the standard of health of the community and increase the common fund of happiness immeasurably. Most human beings when they are not dying untimely, are suffering more or less from avoidable disorders, they are ill or they are convalescent, or they are suffering from or crippled by some preventable taint in the blood, or they are stunted or weakened by a needlessly bad food supply, or spiritless and feeble through bad housing, bad clothing, dull occupations, or insecurity and anxiety. Few enjoy for very long stretches at a time that elementary happiness which is the natural accompaniment of sound health.

How can a man stay alive and stay young? Dr. Scott makes many suggestions. The following are among the most helpful and sensible:

First—Get overhauled by a good physician when you are 50.

Second—Don't retire from business.

Third—Don't hustle.

Fourth—Don't fly into tempers.

Fifth—Eat lightly and intelligently.

Sixth—Cultivate temperance in all things.

MAKE HOTEL RESERVATIONS EARLY.

The annual meeting of the Illinois State Medical Society will be held May 18, 19 and 20 at Rockford. Owing to the crowded conditions at hotels, it will be necessary to make reservations at the earliest possible date.

The committee of arrangements have been promised 300 rooms at the Nelson Hotel at Rockford with rates for single rooms and special at \$1.50 for two or more in one room.

All requests for rooms should be made direct to the Nelson Hotel, Rockford, Ill.

Again we urge that reservations be made as early as possible.

BUREAUCRACY — PRESIDENTIAL CANDIDATES AND THE MEDICAL PROFESSION.

On January 15 Governor Lowden of Illinois in an address before the Detroit Real Estate Board scored the tendency to create unnecessary governmental bureaus whenever a new problem of administration presented itself. Such bureaus, he declared, are cumbersome and lead to poorly administered expenditures.

The existence of many such bureaus at Washington was noted by the governor. He said that despite the fact that the war had ended more than a year ago many bureaus created under the war emergency are still functioning and demanding increased appropriations. Existence of these bureaus, he emphasized, is not due to any one party or another, but to a tendency that has been growing for years.

We quite agree with Governor Lowden in this respect. The tendency of the duty is far too much supervision. The trend of the times in this country for the last ten years has been to encumber our law books with an increasing number of regulating statutes.

We believe that the best government is the one that governs least. It is time that we get back to conditions as they existed before the war and correct the disposition to get away from localized government. During the war there has been a great encroachment on the part of the Federal Government on the prerogatives of our local institutions.

People are growing restless because of too much regulation, too much meddling in private affairs of individuals. At the present time every theorist with brains enough to formulate an idea immediately tries to have his imaginary cure-all enacted into law with a bureau or a commission established with power to make the public goose-step to his or her way of thinking. Although the war was ended a year and a half ago, we are reliably informed that there are 5,800 more people employed in the governmental bureaus in Washington than at the time the Armistice was signed.

The Compulsory Health Insurance Scheme, so dear to the hearts of the parlor Bolsheviks and dream-book dopesters in this country can only be operated under a bureaucratic confiscatory economic system of government, and such a system should be opposed by every right thinking person who has the interests of his or her country in mind.

The medical profession of Illinois has repeatedly gone on record as being opposed to Bureaucracy. At the last three annual meetings the house of delegates of the Illinois State Medical Society passed resolutions deprecating the tendency in this direction as being unAmerican and detrimental to the future welfare of the country.

Individual members of the medical profession may differ with Governor Lowden politically and otherwise. We are confident, however, that there is no diversity of opinion as to the profession being unanimously with him in his ideals of Americanism. The profession is unanimous in the hope that many of the other presidential candidates will express themselves as being in favor of Governor Lowden's principles of Americanism.

The present trend towards paternalism if not curtailed is bound to strengthen bolshevistic doctrine. In this connection Russia is a flaming torch which should show the world how not to go.

MICHIGAN WANTS TO KNOW THE ATTITUDE OF THE A. M. A. REGARDING COMPULSORY HEALTH INSURANCE.

What is the attitude of the American Medical Association?

As in previous issues we have indicated that the above movement demands study and action on the part of our members. Our committee on Civic and Industrial Relationship is aggressively

active in securing information upon the subject for your benefit. It is proposed to disseminate this information through the JOURNAL and by other means. The committee proposes to acquaint each member with the details and to outline a definite course of action.

The statement given below by the chairman of our committee, Dr. Frothingham, develops a startling as well as threatening stand of our council on Public Education of the A. M. A., the president of the A. M. A. and a certain Dr. Rubinow—the latter in a dual rôle of representative of the A. M. A. and *paid employe* of the American league of labor legislation. (This league is not the American Federation of Labor.)

Here are some of the existing facts regarding this important subject:

This is not an argument for or against Compulsory Medical Insurance. That question is being studied and will be reported on later. This is simply a statement of facts regarding existing conditions which seem to call for action on the part of the Michigan Medical Society.

1. All the agitation, all the framing of bills and their introduction into the various state legislatures have been prepared under the auspices of the American Association for Labor Legislation with headquarters in New York City. The secretary is John B. Andrews and the letterheads bear the names of Alexander Lambert, I. M. Rubinow, Andrew Fusereth of the Seaman's Union, John Mitchell, labor leader; Royal Meeker, labor commissioner, Washington; Jane Addams, Sam A. Lewisohn and a sprinkling of more or less well-known people in social work and politics.

2. This Labor Legislation Association has had its bill for compulsory insurance introduced in nine states to date—New York, New Jersey, Massachusetts, Connecticut, Pennsylvania, Ohio, Illinois, Wisconsin and California.

3. Commissions were appointed in eight states to study and report on the measure. The first Massachusetts commission reported in favor of the plan. A second commission reported against it and several attempts by the advocates to incorporate provisions for Compulsory Insurance in the new Constitution have failed. Wisconsin and Connecticut reported flatly against it. New Jersey and Ohio reported in favor. Illinois and Pennsylvania asked for more time for consideration. Later Illinois reported against.

4. Two commissions with Dr. Rubinow as paid expert counsel reported in favor of the Social Insurance in California. Dr. Rubinow conducted an active campaign in its favor, but when it was put to a referendum vote, the people of California voted it down almost three to one. There were 358,324 votes against and only 133,858 in favor.

5. New York has been fighting for three years. In a letter to me, dated Nov. 20, 1919, John B. Andrews, secretary of the American Association for Labor Legislation, wrote:

"Under separate cover, I am sending you a copy of the health insurance bill as it passed the Senate of New York last April. It failed to pass the House due to the autocratic action of the speaker who held the bill in committee."

6. In 1917, the American Medical Association took the stand that it would be neutral on this question and advise its study by state commissions. In 1920 the American Medical Association is still assuming to be neutral and is advising us to be neutral.

7. While we are advised to be neutral, the president of the American Medical Association and Dr. Rubinow, who had been chairman of the national investigating committee for the A. M. A., are fighting in the open, shoulder to shoulder with the American Association for labor legislation and thereby carrying the impression that the great American Medical Association is behind the scheme.

8. The president of the A. M. A. and Dr. Rubinow have taken this position in the face of the fact that according to Dr. Green, secretary of the Council on Public Instruction, an overwhelming majority of the medical profession have been against the plan, in the majority of states in which Compulsory Insurance has been discussed. Dr. Green wrote me under date of Nov. 20, 1919:

"Unfortunately in the majority of states in which this question has come up for discussion, the medical profession has been divided into two camps: the first a small group, influenced by the attitude of theoretical sociologists in favor of the plan, and an overwhelming majority who were violently opposed to the proposition without investigation, because they feared it would interfere with their business."

9. We must assume that the medical profession of New York are men of at least ordinary

brains and intelligence and if after three years of fighting and propaganda, they are still opposed to the measure, it would seem that the purpose of further delay for investigation was not prompted by a desire to educate, but in a determined effort to tire out the opponents of Social Insurance. Particularly, when you consider the attitude of Dr. Lambert, president of the A. M. A. His association is pledged to neutrality, but as president, he does not seem to be bound by the law of the Association.

10. New York is entering on its fourth year of fighting this measure. These men believe that the proposed Compulsory Insurance is a menace not only to the worker himself, but to the taxpayer and citizen and that it means the death blow to the practice of medicine. What support are they receiving from the Association and its official Journal? The Journal says that New York will be a good state in which to make a test and nothing more.

11. The Schenectady County Medical Society of New York has raised the issue squarely. They ask the aid of Michigan in finding out whom the officers of the A. M. A. represent. Is it the men who elected them to their offices or do they represent the American Association of Labor? Shall an association be pledged to neutrality and its officers and Journal permitted to send out propaganda in favor of a measure which is being bitterly fought in many states?

12. "The strength of the wolf is the pack and the strength of the pack is the wolf." At best, this question of Compulsory Medical Insurance is of very questionable value to the American citizen, be he laborer, professional man or ordinary citizen. It has worked out badly in many places where it was tried. In one country there were 1,100 strikes of physicians; but be its merits or demerits what they may be, can we afford to let an Association and a Journal which has been built up by the efforts and money of the medical fraternity be turned over to any association whether it be labor legislation or any one else without the consent of its members. This is what is being done today by the president of the A. M. A. and the propaganda sent out by the *American Medical Journal*.

13. To remain neutral, while the opposition smashes down defenses and builds intrenchments does not seem a very wise policy.

IS THE A. M. A. DOING ITS DUTY TO HELP SOLVE THE COMPULSORY HEALTH INSURANCE PROBLEM?

Inquiry No. 2.

MICHIGAN STATE MEDICAL SOCIETY
COMMITTEE CIVIC AND INDUSTRIAL RELATIONS
OFFICE OF CHAIRMAN

706 Woodward Ave., Detroit, Mich.

January 31, 1920.

Health Insurance Committees,
Illinois State Medical Society,
Chicago, Illinois.

Gentlemen:

Again I want to thank you for your courtesy in sending me the additional packet of pamphlets on Compulsory Health Insurance. They will be of the utmost value to the committee in its work of interesting and educating the fraternity of Michigan on this subject. The one containing the arguments of the Illinois and the Chicago Medical Society committee is very good. They cover the ground so thoroughly; the arguments are so clean cut, so dispassionate and so convincingly hold the attention from start to finish.

I was particularly interested in the letter of Dr. Green, secretary of the Council on Public Instruction, A. M. A. Your letter is dated June 20, 1917, the letter sent me is dated Nov., 1919. I am enclosing you a copy.

This question of the attitude of the A. M. A. and the *A. M. A. Journal*; that of the president, Dr. Lambert, and that of Dr. Rubinow, is puzzling many who are interested in the question. If the A. M. A. is pledged to neutrality, then why does the president permit his name to be used on the letterhead of the American Association for Labor Legislation and why is he working and fighting for it? If the former, then he should make it very clear, for at the present time, many people think that he is speaking with authority from the A. M. A. What emphasizes this is the fact that it is Dr. Lambert's and Dr. Rubinow's propaganda that is being sent out by the A. M. A. At least that is what was sent me, when I asked for information. The Schenectady County Medical Society of New York has taken up this point and we in Michigan are feeling that it is a point well made. Can you give me any light on this phase? If, as Dr. Green wrote me, "an overwhelming majority of the profession in the states

where it has been discussed are against it without investigation, while but a small group influenced by theoretical sociologists are in favor of it," the attitude of the A. M. A. is even less clear.

Copy of letter from Dr. Frederick R. Green, secretary, Council on Health and Public Instruction, to Dr. George E. Frothingham, Detroit, Mich., chairman, Committee on Civic and Industrial Relation, Michigan State Medical Society.

535 North Dearborn St.,
Chicago, Ill., Nov. 17, 1919.

I have your letter of the 14th. It is a great pleasure to know that my letter was of interest and assistance to you. I appreciate the difficulties which the chairman of the state committee labors under in undertaking to get a comprehensive view of as complicated a question as social insurance. Its history goes back for fifteen years in England and for twenty-five years or thirty years in Germany, Denmark and other European nations. The discussions of the question in this country have been almost entirely *ex parte* and strongly biased either for or against. I have always maintained that it was essentially a problem in practical sociology and not a medical problem, but that the medical profession should be thoroughly informed on the question and especially should be able to take its own position. Unfortunately, in the majority of states in which this question has come up for discussion, the medical profession has been divided into two camps; the first, a small one of men who were strongly influenced by the attitude of the theoretical sociologists in favor of the plan, and an overwhelming majority who were violently opposed to the proposition without investigation, because they feared that it would interfere with their business. Of course this is no ground for going before the public. If social insurance can be proven to be a good thing for the majority of the people, then the fact that it is objectionable to the medical profession is not necessarily an argument against it so that we must have a stronger ground for opposition than this.

My personal opinion is that the advocates of social insurance have as yet failed to make out a case on the two essential points which I tried to outline in my previous letter. First, that there is a problem of sufficient importance in this country to demand governmental intervention; and second, that the proposed social insurance plan is the best remedy for the situation. Until this can be proven, of course, there is no basis for an argument.

Your plan of educating the rank and file of the profession is the right one. What is urgently needed is a simple, clear statement of the essential principles. The great majority of pamphlets on this subject (including those which are issued by our Council) is that they are far too complicated and deal in details rather than with principles. Most of the details are matters that can be readily adjusted after the general principles are agreed upon and they are not of the

slightest consequence until these principles have been decided.

(Signed) F. R. GREEN.

Now, Gentlemen, what is Illinois going to do about the point raised so squarely in the Schenectady letter, a copy of which I sent you? If it is true, that the pamphlets being issued by the Council on Health and Public Instruction are propaganda in favor of Compulsory Medical Insurance, is Illinois going to accept the situation or will Illinois try to get other states aroused to the gravity of the issue?

In your study, have you learned anything of Dr. Rubinow's famous system of Russian Village Medicine of which he speaks in his book on Standards of Health Insurance, page 237. I have written the author, asking for information, but in the interval I am hoping to learn something of it in other directions.

Our committee's instructions are to get information which we are to pass on to the rank and file of the medical fraternity in Michigan, and I, for one, purpose getting it, wherever and whenever I can without fear or favor.

Again thanking you in my own name and for the committee, I am,

Sincerely yours,

GEORGE E. FROTHINGHAM, M. D.,
Chairman, Committee on Civic and Industrial Relations, Mich. State Medical Society.

Committee on Social or Health Insurance of the Illinois State Medical Society.

ED. H. OCHSNER,	JOSEPH FAIRHALL,
GEORGE APFELBACH,	WM. F. BURRES,
C. A. HERCULES,	J. R. BALLINGER,
H. F. BRUNING,	E. W. FIEGENBAUM,
W. D. CHAPMAN	CLEAVES BENNETT

WHAT ILLINOIS IS DOING TO HEAD OFF COMPULSORY HEALTH INSURANCE.

We have been asked many times of late what Illinois is doing or going to do to head off Compulsory Health Insurance?

We wish to say that Illinois has been on the job for upwards of three years. Our committee on Health Insurance submitted its first report at the annual meeting of the Illinois State Medical Society in 1917. This report was amplified at the annual meeting in 1918 and again in 1919. The committee has published several reprints on

the subject and copies of same have been in great demand and have gone from Maine to California, upon request from various persons interested in the subject. Each annual report alluded to contained the following resolution binding Illinois delegates to the American Medical Association on the subject of Health Insurance:

Resolved, That the delegates from the Illinois State Medical Society to the House of Delegates of the American Medical Association be, and are, hereby instructed to oppose in the House of Delegates of the American Medical Association any resolution in favor of Health Insurance that may be introduced.

Committee on Health Insurance of the Illinois Medical Society.

EDWARD H. OCHSNER

CLEAVES BENNETT

GEORGE APFELBACH

W. F. BURRES,

C. A. HERCULES

JOSEPH FAIRHALL

E. W. FIEGENBAUM

W. D. CHAPMAN.

H. F. BRUNING

J. R. BALLINGER

THE PROHIBITIVE OVERHEAD COST OF COMPULSORY HEALTH INSURANCE

Did anyone ever try to convince you that the Compulsory Health Insurance scheme would be an efficient method of financing the sickness problem?

Get the real facts before you believe any of the propaganda of the Compulsory Health Insurance advocates, to the effect that only from 3 to 4½ per cent will be wasted in conducting their Utopian distribution of medical expenses.

The studies of our committee show that at least from 40-50% of the funds will be absolutely wasted before a single penny can go to the care of real cases of illness.

Between July 1, 1914, and December 31, 1918, it cost a group of the large self-insurance industries of New York state \$2,278,000 in overhead costs to disburse \$5,353,000 in benefits under the Workmen's Compensation Act. In other words, it costs these private companies, spending their own money in the most efficient manner possible, 41.5 cents to distribute every dollar under the relatively simple Compensation Act. It also cost the State of New York an additional 4.5 cents for supervision.

Without even considering the reserve and guarantee fund and that very important factor

of waste due to over-emphasized illness and malingering, we find that it costs in New York state 46 cents to distribute \$1.00 in benefits under the relatively simple conditions encountered in the Compensation problem.

What would be the overhead loss under a politically managed system attempting to cover every man for every illness, no matter how trivial?

For confirmation of the above see the combined statement July 1, 1914, December 31, 1918, of the following groups: Utilities Mutual, Coal Merchants, Lumber, N. Y. Printers, Brewers & Malsters, Employers, Mfrs. of N. J., Bakers, Interboro, Exchange, Allied, Utica, American and Liberty, as compiled by the Utilities Mutual.

CUMULATIVE EXPERIENCE OF BUSINESS WRITTEN
IN NEW YORK STATE JULY 1, 1914-DECEMBER 31,
1918, BY MUTUAL INSURANCE COMPANIES AS
REPORTED TO THE INSURANCE DEPT.

Premiums	Loss Ratio	Expense Ratio	Loss and Expense Ratio	
Utica Mutual 1,712,000	Exchange 27.46	Interboro 12.52	Utilities 56.78	1
American Mutual 1,648,000	Bakers 33.18	Utica 16.84	Exchange 60.90	2
Mfrs. Mutual of N. J. 1,503,000	Utilities 36.35	Manufacturers 17.93	Bakers 62.02	3
Employers Mutual 1,415,000	Printers 36.49	American 18.26	Printers 65.81	4
Utilities Mutual 1,014,000	Liberty 38.30	Utilities 20.43	Manufacturers 66.49	5
Lumber Mutual 891,000	Coal 41.02	Employers 21.92	Coal 67.39	6
Allied Mutual 854,000	Allied 43.51	Brewers 24.33	Employers 68.46	7
Interboro Mutual 669,000	Lumber 45.34	Lumber 26.00	Allied 71.22	8
Exchange Mutual 363,000	Employers 46.54	Coal 26.37	Lumber 71.34	9
Brew's & Malsters Mut. 253,000	Manufacturers 48.56	Allied 27.71	Utica 71.62	10
N. Y. Printers Mutual 169,000	American 54.13	Printers 29.32	American 72.39	11
Bakers Mutual 153,000	Utica 54.79	Bakers 29.44	Liberty 72.74	12
Liberty Mutual 128,000	Brewers 73.60	Exchange 33.44	Interboro 57.05	13
Coal Merchants Mutual 122,000	Interboro 74.53	Liberty 34.44	Brewers 97.91	14

NOTE—Three companies writing less than \$100,000 in the period have been omitted from this comparison.

THE MANIA FOR SUING DOCTORS

Arizona presents a recent judgment for \$26,000 in a fracture case.

A Pennsylvania physician arrived too late to attend a birth and was sued for failure to attend.

Missouri dentist sued by an irate husband be-

cause filling of teeth and making of bridge incapacitated wife.

Dentist and physician in Illinois made co-partners in a suit where the physician assisted the dentist in an oral operation.

The Supreme Court of Missouri affirms a judgment for \$15,000 against a physician who removed a fibroid tumor.

A radical I. W. W. sued a physician for \$10,000 because of poor results developing in an injury while patient was a party to a strike procedure.

A wife in California, as administratrix of her husband's estate, is sued for \$10,000 for services rendered by her husband who died a few months ago.

The Supreme Court of Minnesota just affirmed a judgment for \$6,500 against a charitable hospital, holding a charitable and religious institution to the same responsibilities as any other hospital or sanitarium.

This verdict was awarded the relatives of a patient who, while suffering from delirium and occupying a room on the second floor of the hospital, being left alone for a short while, jumped out of the window and was killed.

Such accidents are very unfortunate and distressing, and no one would for a moment accuse the hospital of insufficient vigilance except in unusual cases. An accident of any sort occurring in a hospital is always looked upon as a disgraceful affair, and particularly by lay people. Physicians, of course, know that accidents, suicides, and things of that sort are sometimes unavoidable.

This verdict against a hospital, and its publication, will probably have a far-reaching effect, and hospitals will either endeavor to keep closer watch of their uncertain mental cases or the deliriously sick cases than ever before. This may mean, however, that the hospital will demand that every suspected case be in the charge of a special nurse, which means an additional amount of money that the patient or his friends must pay.

WHAT THE PHYSICIANS OF ILLINOIS ASK OF THE CONSTITUTIONAL CONVENTION

The following letter was forwarded to the chairman of the Constitutional Convention on

the recommendation of the council of the Illinois State Medical Society:

February 25, 1920.

Hon. Chas. E. Woodward,

Chairman, Constitutional Convention,
Springfield, Ill.

Sir: The Illinois State Medical Society, with a membership of seven thousand, respectfully submits to the Constitutional Convention the following section and asks that it be made a part of the new Constitution:

Section. The health of the people is essential to the welfare and perpetuity of the state.

The General Assembly may enact laws to preserve and safeguard the health of the people and to impose licenses upon those undertaking to treat or cure the sick or infirm or to preserve from sickness and infirmity, persons within the state.

No power shall exist to impose, hereafter, any term or restrictions or give power to any person or persons to treat or undertake to treat any ailment, infirmity or disease of another for pay, reward or compensation, upon any different terms, limitations, qualifications or prerequisites from those granted or limited to every other person or persons, who may hereafter be licensed to undertake to treat or cure the sick or infirm, or to preserve from sickness and infirmity, persons within the state.

Respectfully,

CHAS. E. HUMISTON,

Chairman of the Committee to represent the State Medical Society before the Constitutional Convention.

WHAT MEDICAL FREEDOM ADVOCATES WANT OF THE ILLINOIS CONSTITUTIONAL CONVENTION

The following letter and resolution speaks for itself:

CENTRAL HEALTH COMMITTEE OF THE STATE OF ILLINOIS

1104 Steinway Hall
64 E. Van Buren St., Chicago

January 19, 1920.

Dear Sir:

This committee, representing a dozen different associations in this state, and with petitions in hand signed by the thousands of voters, desire to present for

your earnest consideration a matter that we hold it vitally important to have incorporated in the Bill of Rights of the new constitution.

In the Preamble and Resolution attached hereto will be found a long accepted principle of our Government and another strictly analogous thereto, which developments of the past 25 years make equally essential to a basic law that is to preserve our liberties.

In pursuance of this object, we stand ready to furnish to you, to the Convention, and to the Bill of Rights Committee thereof, important information and evidence to support our contention.

Depending on you to give this great problem the careful consideration it deserves, we are

Yours respectfully,

CENTRAL HEALTH COMMITTEE,

(Signed) F. Emory Lyon, Chairman.

(Signed) Lora C. Little, Secretary.

Under another cover we send you two folders touching some of the "high spots" in this campaign for justice.

Leaving out the preamble of the petition, the following is the section they asked to have incorporated in the new constitution:

Therefore, Be It RESOLVED: That we, members of the Central Health Committee of the State of Illinois, do hereby petition the Delegates to the Constitutional Convention, requesting them to prepare and incorporate in their draft of a new Constitution a section under the title "Bill of Rights," substantially as follows:

"The free exercise and enjoyment of the profession and practice of the healing art, without discrimination, shall be forever guaranteed; and no person shall be denied any civil or political right, privilege or capacity, on account of his convictions with reference to the healing of the body; but liberty of conscience hereby secured shall not be construed to dispense with sanitation, in the sense of cleanliness, or excuse acts of licentiousness, or justify practices inconsistent with the peace and safety of the state. No person shall be required to employ, or pay taxes to support, any practitioner or any system of healing against his consent, nor shall any preference be given to any school or system of healing."

Note: The last three lines of the final paragraph is the crux of the whole proposition; the adoption of this paragraph in the new constitution would mean doing away with the State and Municipal Boards of Health; that there would be no more school inspection; no more smallpox and typhoid vaccination; no anti-toxin for the poor afflicted with diphtheria; in fact, the adoption of this paragraph would place civilization back fifty years and would throw discredit on scientific progress.

RED CROSS APPEAL FOR DOCTORS

To the Editor:

An appeal has come from National Headquarters calling for approximately 40 doctors, whose services in general will be in the eastern part of Europe and will extend for a period of six to nine months. It is planned to engage men who have just finished their internship at hospitals as first lieutenants and to pay them \$225 per month, without maintenance, but with travel expenses and living allowance in New York while awaiting sailing. If men of wider experience than internes are available, we plan to engage them as captains with a pay of \$275 per month.

Medical men wishing to take advantage of this great opportunity are requested to communicate with the Central Division of the American Red Cross (308 N. Michigan Ave., Randolph 4222), and make appointment for presentation of credentials, etc.

Thanking you for your co-operation and interest, I am,

Very truly yours,

E. K. HARDY,

Manager, Central Division.

MEDICAL DEFENSE IN ILLINOIS.

In response to many requests from Doctors throughout the United States for information relative to the working of the Medico-Legal Defense feature of the Illinois State Medical Society, we submit the following:

The Illinois State Medical Society, with a membership in excess of 7,000, has conducted a defense of its membership against malpractice suits since 1903. During the first ten years, more or less, of such medical defense, the practice was not pursued of keeping a record of all malpractice threats reported, and reports were often orally made to members of the committee having such matters in charge, which were given attention by the members of the committee, and the claim not proceeding to suit, no record was kept of it. The claims, of which record has been made, consisting of all claims filed in the past nine years and a portion of those previously reported, number 581.

The defense is conducted by setting aside, out of the annual dues of each member, \$1.00 per annum, which is subject to the order of the

Medico-Legal Committee, upon approval by the Council.

The Committee consists of six members, whose terms are three years each, two members of the committee ending their term each year.

The committee employs a general counsel, who is paid an annual retainer for services in caring for threats and claims and who personally cares for or supervises handling, through local attorneys, of all suits.

The Society has on an average in excess of 50 suits pending in court, the number at times exceeding 75.

In suits wherein the physicians carry insurance, the Society co-operates with the insuring company and renders such assistance as the insuring company permits. In cases where the physician has no insurance, the Society takes exclusive charge of the case.

The constitution of the Society provides that the persons who shall be entitled to defense are persons who are threatened or sued for civil malpractice, who were in good standing in the Society at the time of rendition of the service complained of, and who are still in good standing at the time of making of claim and commencement of suit. The limitation of cases to those for *civil* malpractice eliminates claims of criminality. This was found advisable, because where criminality of the physician is charged, the Society may be in position where it may be called upon to prosecute or assist in prosecuting the member and ejecting him from the Society, which position would be inconsistent with defending the criminal action. The distinction has been found an important and valuable one and no complaint has been had from any members that any injustice has resulted by reason of the distinction. Limiting claims to those for *malpractice*, automatically eliminates cases of slander, unauthorized autopsies and extra-professional violations of duty by physicians.

The Society undertakes to defend its members through all the courts, to furnish complete defense, but not to pay judgments. In no case, which the Society has undertaken and defended during ten years last past, has any judgment been rendered against a physician and enforced against him. In two or three instances, judgments have been rendered against physicians where they were defended by insuring companies,

in which some assistance had been given by the Society, but there have been no judgments in any case which the Society itself handled. There have been a number of verdicts and judgments, which have been set aside or reversed by the higher courts.

The procedure adopted to care for members has been thoroughly systematized. Attached to the receipt for annual dues is a detachable report slip, giving the name and address of the chairman of the Medico-Legal Committee with directions how to proceed in the event of a malpractice claim. It frequently happens that the only communication received from the physician is this slip, bearing the physician's name and showing him to be in good standing. Upon receipt of this evidence of the physician's good standing and indication that threat or suit is lodged against him, an inquiry blank is immediately forwarded which, by appropriate questions, draws out the entire story of the physician, requiring no letters or correspondence to secure that which is desired. This blank, together with the slip detached from the receipt for dues, places the matter in the hands of the committee which, from that time, actively takes charge of the case. The physician is advised as to his conduct. If correspondence with others is rendered necessary, it is undertaken. If suit is commenced, appearance is entered, investigation made, and the suit given every attention.

The cases which have been defended by the Society are so many and so varied that it would be impossible, in a brief article, to adequately indicate their scope. The Society has presented defenses believed to be entirely outside of ordinary experience, such as the defense which was finally established in a suit for a child, upon claim that the loss of the eye at childbirth was not actionable, because the child, at the time of the injury, had not a separate existence and the damage, in fact, accrued to the mother.

The defense has been successfully established, in a number of cases, that suit did not lie against the attending physician because the patient had collected compensation under Workmen's Compensation Act from his employer, and, therefore, had been paid for his entire disability and was barred of his suit against the physician.

Such strange cases have occurred as that of a woman who sued for trespass in unauthorizedly

performing a hysterectomy where the facts disclosed that the patient was a deaf mute, unable to write, and came into the care of the physician with a torn womb, in consequence of which she would have died, with certainty, except for the operation, undertaken concededly without her consent.

A verdict was secured from a jury in favor of a physician where the plaintiff had lost both hands and both feet through the claimed negligence of the physician in caring for these members when frozen.

The Society has successfully defended cases brought more than nine years after the rendition of service, where the defense of limitation was not available because the plaintiff was a minor. The difficulty in ascertaining the facts in such a case may be readily imagined. Cases have been successfully conducted where the patient had died and the physician was not permitted to testify at all. Cases have been defended for the families of physicians where suit was brought against the personal representatives after the death of the physician. The infinite variety of cases handled is incapable of presentation in this brief article further than the foregoing may faintly indicate.

All pending matters are reviewed monthly by the committee and more frequent consultations are had between the chairman and the general counsel.

Societies conducting defense organizations in other states are challenged to produce any record of service for an equal length of time or showing more uniformly successful results.

PSYCHOLOGISTS' TEST FOR INTELLECTUALITY NOT RELIABLE

PSYCHOLOGISTS ARE NOT INFALLIBLE

Under this title the following item appeared in the news:

"You will not find the word 'moron' as used by psychologists and alienists, in many dictionaries, for it is a word coined only very recently to describe a certain type of person who is mentally defective although not insane. Col. T. Easby Smith, of the Selective Service Board, Washington, made a little speech at the Atlantic City meeting of the American Medical Association in which he rather 'guyed' his professional associates on the way they judged a man to be a moron or sub-normal in intelligence.

"After relating how the Board of Psychology had set a certain soldier down as having the mind of a

five-year-old child, he drew a hearty laugh at the expense of his colleagues by adding that this same board had analyzed the intellect of a certain member of President Wilson's Cabinet and had pronounced it to be on the level of a twelve-year-old, and had in the same way set down an eminent general in command of one of our armies abroad as a ten-year-old in intelligence."

Errors like these are not rare. Another case was reported to the office of this Association quite recently, also from the army.

In a certain camp, one of the drafted men passed his examination very uncreditably, in fact so badly that he was practically mustered out. Yet it was this very man, who in private life conducted a flourishing business, who was selected by a higher official as the only one man could be entrusted with a very responsible commission. To accomplish this, the records of the man had to be set aside so that he could be made eligible.

In our own practice, errors like these have often been observed. The highly intelligent superintendent of the welfare work among the miners of a certain coal region, a former minister, was so unsuccessful in doing the Knox Cube test that he failed in the fourth. These examples can be multiplied.

It is for this reason, among others, that this Association has placed little reliance upon the results of the application of standardized tests as elaborated in the psychological laboratory. That these tests have their great value nobody will deny; but by themselves they are quite insufficient to measure even the intelligence of a person, not to speak of his mental and volitional power, his character, his chances of development and growth, and his eventual success in life. Many other elements have to be taken into consideration, with a careful mutual checking up of records.

REVERSE EVOLUTION

THE MAN-APE

In a reversion to the original typeatavism; or evolution backing out.

Comforting news comes from one Dr. Veronoff, a famous French surgeon of Paris. The glad tidings were transmitted by the International News Service. The interview was given to Ward Price, special correspondent of the Paris edition of the *London Daily Mail*, by Dr. Veronoff, who said: "At the present moment, in France, there are two old men whom I have restored to youthful health and vigor by grafting into them testicular glands from a young ape. One man was operated on several months ago. He was sixty-six years of age and his vitality had been exhausted by hard work. His figure was bowed and he looked decrepit. Now he walks upright and with the utmost vigor. His brain is clear and active. He sleeps well and has the hearty appetite of a man in the prime of life." Jes so. Such a report is in keeping with the Brown Sequard craze of the eighties,

in which testicular juice injected into the aged restored virility. On every street corner old men were to be seen, hobbling and limping along, with a hypodermic abscess in the leg, the result of an injection of the virile elixir which restored nothing. They had the trouble and the pains for their credulity and money. The last syllable of this new doctor's name signifies—off. However, the necessity for this new discovery does not appear in the off-ing.

The old men should have a rest. Young men have some rights that old men should respect. Old men may be used in war-stricken Europe to lessen polygamy and government-owned children, but not in the United States or its possessions.

But if this left-handed miscegenation must come, we should look on the bright side of it for future generations and make a record of the conveniences which these hybrids will experience and enjoy by the mixture. These men-apes or mongrels will be great tree climbers. Tree-climbing will be the world amusement. The cross should be with the tailless ape so as to do away with the tail. This tailless variety will save clothing and damage to chairs. Having short, bandy, rudimentary legs, reaching from the body to the ground and long arms and bodies, the hands or paws will drag on the ground when they walk upright. Setting out cabbage plants and tomato plants, thinning beets and picking up potatoes will be their peculiar forte. Old H. C. L. will be a tradition.

Hirsute will be the wearing apparel, automatically grown and colored, clipped in the springtime for summer use—except in the case of a few empties of the female human species who insert their lower extremities in a pair of one-legged trousers and go scizzoring along the street, tripping over pins and other like foreign bodies. However, that class of creature will not increase, for the same reason that Josh Billings gave for the mule not breeding: "When the Creator made a mule He got ashamed of himself and kwit."

The sweating will be through or by the mouth, the same as a dog sweats. The mouth will drop open a little and the tongue loll out when tired. This condition will be an improvement on the chewing gum habit of this generation. Hats will not be worn. The forehead will be so low that the tears will run down the back of the neck, doing away with the handkerchief. The nose will be club-shaped and dandy to ring and hang bric-a-brac on. There will be no bridge to the nose, but there will be enough knowledge of surgery to fashion a lump or wart on it big enough to hold a nose glass if needed. If a living desire remains to study entomology, the insects indigenous to man and beast will be present in countless numbers.

Many more advantages might be recorded to encourage posterity for the loss tradition may hand down to them of the superiority of mere man, but these few suggestions will serve to arouse suspicion and allay fear. With all these advantages in favor

of the man-ape the Prodigal has held to the belief that man had one on the ape in being able to walk on two legs instead of four and in some other things he has forgotten. But when the daily press gives such wide-spread publicity, at such enormous cost, to such twaddle and the gullible people will stand for it and pay for it, the Prodigal withholds judgment and is a stranger to his own, the genus homo.—*By The Prodigal, J. Kansas Med. Society, 1920.*

Public Health

THE INFLUENZA EPIDEMIC OF JANUARY-FEBRUARY, 1920

The anticipated second epidemic sweep of influenza, although slightly delayed in its advent, has come to pass and at this writing is fast becoming history.

Following the first epidemic sweep of October, 1918, predictions were freely made by epidemiologists and sanitarians that a second and even third visitation of influenza in epidemic proportions might be expected in the two years succeeding the first outbreak. Most authorities agreed also that succeeding epidemics would be less destructive of human life than the first. These predictions have proven true so far as the second epidemic outbreak is concerned. As to the third visitation, time only will tell.

FIRST REPORTS FROM GREAT LAKES

The first notification of the second outbreak of influenza in epidemic proportions came to the state health authorities of Illinois from the Great Lakes Naval Training Station, located about thirty miles north of Chicago, on January 12th. It is not yet definitely known that the disease first assumed epidemic tendencies in this quarter, as there are some facts that point to marked prevalence in other northern Illinois communities just prior to the Naval Station outbreak. Certain it is that with the newspaper announcements of the epidemic situation at the Naval Training Station, there immediately came to light in Chicago, Camp Grant and in other northern Illinois communities evidence of widespread infection. It is believed that the disease really began to take on epidemic tendencies soon after January 1st.

In any event, as in the October, 1918, epidemic, the disease first assumed epidemic prevalence in northern Illinois, Chicago and vicinity, next appearing in serious proportions at Camp Grant and Rockford. From these points the disease rapidly spread in all directions, especially along main lines of travel, the extreme southern end of the state not being markedly involved until about three weeks after outbreak in the northern extremity.

Immediately upon knowledge of the threatening epidemic the State Department of Health put its machinery in operation to meet the developments in the best possible way. The 2,800 health officials throughout the state were notified of threatening developments and advised of approved methods for

handling the situation. Advice issued by the state health authorities included a statement of policy relative to the closing of places of public assemblage to the effect that it was deemed better to keep schools, churches and other places of assemblage in operation under medical and sanitary supervision rather than close them.

Under authority granted by the United States Public Health Service, the State Director of Public Health appointed one physician in each of the 102 counties in the state and one in each of the cities having more than 20,000 population to act as collaborating epidemiologists, and in this capacity to keep the State Director advised by daily telegraphic report of influenza developments, medical and nursing needs and any necessity for official action in their respective jurisdictions. The physicians who acted in this capacity rendered valuable service, doubtless at considerable personal sacrifice, as their compensation, which was fixed by the Federal Government, was but one dollar per annum. The names of the physicians who served as collaborating epidemiologists are elsewhere set forth in this issue of the JOURNAL.

EPIDEMIC STATISTICS

At this writing it is impossible to give complete statistics of this epidemic, but the following may be accepted as indicative of what the final figures are likely to show.

Comparison of the statistics of two recent epidemics of influenza-pneumonia in the city of Chicago:

	Period of Six Weeks —Epidemic of—	
	Oct.-Nov. 1918	Jan.-Feb. 1920
Influenza cases reported.....	36,993	28,344
Pneumonia cases reported.....	12,211	7,803
Ratio pneumonia cases to influenza cases.	33.0%	27.6%
Influenza deaths reported.....	5,069	1,734
Pneumonia deaths reported.....	3,140	1,732
Total influenza and pneumonia deaths....	8,209	3,466
Normal or usual influenza-pneumonia mortality for this period—based on five years average.....	334	862
Excess of mortality due to epidemic:		
Actual mortality.....	7,875	2,604
Percent excess.....	2358%	302%
Influenza-pneumonia death rate for epidemic periods per 100,000 of population..	316	128
Reduction in death rate 1920 epidemic....		59.5%

From the foregoing statement the following deductions are made:

Although the number of cases of influenza recorded in the 1918 epidemic were greater than in the recent outbreak, it is believed that the actual number of cases developed in the last epidemic was greater than in the former. In other words, the reporting of cases was more complete during the former epidemic than in the last, due undoubtedly to the fact that a large proportion of the cases developed during the recent sweep of the disease were so mild in character that medical attention was not called for, and therefore the cases were not reported. It is considered a conservative estimate that not more than one case in fifteen or twenty was reported to the health authorities.

DEATH RATE LOWER

Notwithstanding the larger number of cases of the disease, the death rate in the recent epidemic was

almost 60 per cent. lower than in the October, 1918, epidemic, the rates per 100,000 population being 128 and 316, respectively.

That we have had an epidemic of serious proportions, however, is clearly demonstrated when we compare the death statistics of the epidemic period with the normal mortality of the six-week period. In the city of Chicago the normal or usual mortality from pneumonia and influenza during the six-week period ended February 21st is approximately 862. The recent epidemic swelled the total to 3,466, an excess of 2,604, or more than 302 per cent. above the normal. This, however, when compared with the excess above normal in the October, 1918, epidemic, appears relatively low, the excess in 1918 being 2,358 per cent. or almost eight times greater than the excess of the 1920 epidemic period.

OFFICIAL DATA ON IMPORTANT ILLINOIS CITIES

A comparison of the mortality rates of a number of the more important Illinois cities is not without interest.

The following statement, compiled from reports furnished by local health authorities, shows the death rates from influenza-pneumonia and all causes in nineteen of the principal cities of Illinois for the epidemic period—six weeks—beginning January 10th and terminating February 21st, 1920:

INFLUENZA-PNEUMONIA DEATH RECORDS

Principal Illinois Cities

For epidemic period, Jan. 10- Feb. 21, 1920.
Cities arranged in order of highest death rate from influenza and pneumonia per 100,000 of population.

Cities—	Deaths From Influenza and Pneumonia	Death Rates Influenza and Pneumonia	Death Rates All Causes
		per 100,000 Pop.	per 100,000 Pop.
Aurora	74	207.4	353.0
Oak Park	45	152.2	375.4
Galesburg	40	151.2	345.8
LaSalle, Oglesby and Peru	37	148.0	300.0
Rockford	108	144.0	269.3
Evanston	42	139.2	341.1
Bloomington	38	137.3	303.7
Chicago	3,466	132.6	306.4
Peoria	94	130.2	....
Alton	39	129.8	263.0
Moline	35	125.1	304.5
Elgin	36	123.7	264.6
Rock Island	39	119.8	371.6
Decatur	46	103.9	....
Springfield	67	103.5	291.3
Waukegan	22	100.3	150.5
E. St. Louis	70	93.3	285.3
Belleville	18	85.0	245.7
Quincy	29	78.6	192.5
Totals	4,345	130.5	291.9

The cities enumerated in the foregoing table have an aggregate population of 3,328,622, or approximately one-half the population of the entire state. The influenza and pneumonia mortality in these cities during the recent epidemic totaled 4,345, or 130.5 for each 100,000 of the aggregate population.

Assuming that a similar death rate prevailed throughout the state, the total mortality for the six weeks of the recent epidemic will reach a total of approximately 8,600. During the first six weeks of the October, 1918, epidemic the total influenza-pneumonia mortality was about 18,000, therefore the

present epidemic resulted in 51 per cent. fewer fatalities than occurred during the 1918 outbreak.

The average influenza mortality rate for the nineteen listed cities was 130.5. Those cities having rates above the average are Aurora, with an excessively high rate; Oak Park, Galesburg, the tri-cities LaSalle, Oglesby and Peru, Rockford, Evanston, Bloomington and Chicago. With the exception of Rockford, these cities also had a death rate from all causes in excess of the average.

It is significant that in one of the cities having the highest death rate there was found to be a strong disposition on the part of the local health authority to disregard the prescribed measures for control, he going so far, it is reported, as to advise against reporting of cases unless death was imminent, and then only for the purpose of safeguarding against prosecution which might be insisted upon.

REPORTS OF CASES INCOMPLETE

Table II presents an analysis of the influenza-pneumonia case reports and shows the ratio of deaths to reported cases, the cities being listed in order of highest ratio. The excessively high ratio of deaths to cases in the cities of Springfield, Aurora and Moline must be attributed to one or more of three causes, viz., (a) greater laxity of reporting cases, (b) greater severity of infection, or (c) less intelligent handling of the cases. Doubtless the first stated is the real cause.

Reports of cases were much more complete in the smaller cities and rural sections than in the cities having more than 20,000 population. Nineteen cities having approximately one-half the population reported only one-third the total number of cases. The city of Aurora, in which only 238 cases were reported, had at a most conservative estimate more than 4,000 cases of the disease. A similar lack of attention to reporting prevailed in the city of Springfield.

MISCELLANEOUS COMMENT

From studies thus far made it appears that from 75 to 85 per cent. of the cases developed in the recent epidemic were among persons who previously had escaped the disease.

The age distribution of the cases appears to be essentially the same as in the preceding epidemic. Young adults, 20 to 30 years of age, appear to be those most frequently affected. About 10 per cent. of the cases were among children of school age.

Males were more frequently affected than females.

Early reports upon investigation of the fatalities indicate an overwhelming proportion due to neglect of "common colds" and forced convalescence—a too general tendency to regard the illness as trivial and to "get up and attend to business" too soon.

At this writing it is not possible to report upon the prophylactic value of vaccines. Experiments scientifically carried out in the state institutions should throw much light on this mooted question.

Recrudescence of the infection may be expected

during the late winter and spring months, but a general epidemic is quite unlikely.

Health authorities are strongly urging the necessity of isolating all cases of pneumonia, reporting all cases and strictly prohibiting visiting on infected premises or on pneumonia patients in hospitals.

The recent epidemic brought to light a number of desirable locations for physicians in the rural areas. Physicians interested in securing permanent locations in prosperous rural sections should address the State Director of Public Health at once.

Society Proceedings

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, February 4, 1920

1. A New Operation for Dysmenorrhea and Sterility. Illustrated with lantern slides..
.....Jacob Frank
Discussion.....E. C. Dudley
2. An Analysis of a Number of Cases of War Neuroses.....Lewis J. Pollock
Discussion.....Wm. J. Holmes
3. Cervical or Kronig Doederlein Caesarean Section.....Edward Lyman Cornell
Discussion..N. Sproat Heaney and Jos. B. DeLee

Joint Meeting of the Chicago Medical and Chicago Pathological Societies February 11, 1920

1. The Pathological Characteristics of Tumors in Mice and Their Relation to Human Tumors. Illustrated with lantern slides..
.....H. Gideon Wells
2. The Inheritability and Biological Characteristics of Tumors. Illustrated with charts..
.....Maude Slye

Regular Meeting February 18, 1920

1. The Major Trigeminal Neuralgias and Their Treatment..Chas. H. Frazier, Philadelphia, Pa.
General Discussion.
2. X-Ray Treatment of Exophthalmic Goiter...
.....M. J. Hubeny
Discussion.....E. S. Blaine

Joint Meeting of the Chicago Medical Society and the American Congress on Internal Medicine February 25, 1920

The Medical Aspects of Gassing in Warfare, with Particular Reference to Mustard Gas. Illustrated with lantern slides.—Prof. Aldred Scott Warthin, Chief of the Dept. of Pathology, University of Michigan.

Discussion—Joseph L. Miller, Russell Wilder, Rochester, Minn., and Frank Smithies.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held October 6th, 1919, at 8 p. m., the President, Dr. Elmer Kenyon, in the chair.

Dr. R. C. Lynch, New Orleans, read a paper entitled "Suspension Laryngoscopy as a Means of Diagnostic and Operative Approach to the Larynx."

Abstract.—Suspension laryngoscopy as a diagnostic means of approach to the larynx has its field of usefulness, but on account of the necessity for its use one could readily understand that it had no place as a routine procedure. By its use certain data can be gathered which furnishes that refined type of information that leads to most accurate diagnosis, and this cannot but help in the more complete and ultimate care of the special condition under observation. In the diagnosis of tumors, suspension permits of the two-handed palpation carried out in a manner as delicately and accurately as if the larynx were laid upon the surface of the body. While color, vascularity and probable point of attachment can be seen by mirror and spatula, it takes in most instances two hands to gain accurately the size, consistency and actual point of origin of the tumor mass. In the case of large, benign tumors and especially the malignant tumors, the extent of involvement and amount of induration can only be determined under two-handed manipulation, which is afforded only by the aid of the suspension apparatus. Points of vital interest to the surgeon in determining the type of operative procedure best suited for the case are also determined by this means.

Dr. Lynch did not believe that one studies the delicate movement of the vocal cords nearly as well under suspension as by the other means, for the tension which is necessary to a proper view, while not so great, still is too much to permit of their free movements. In infants and very young children, however, it seemed more useful than the spatula because of the broader view and because if a pathological state was found to exist it could be relieved. For the diagnosis of vocal nodules and their removal, if desired, especially in infants and young children, suspension was invaluable. Ulcers, polypi, pedunculated tumors, extensions of indurations, webs, tags, and the lodgment of foreign bodies are brought into view by this method and can be palpated.

As a means of operative approach to the larynx and upper esophagus suspension laryngoscopy had made possible the development of the two-handed surgery of these regions, and it was now hardly fair to compare any one-handed operative procedure with the modern two-handed type.

The speaker had deliberately dissected malignant neoplasms from within the larynx seven times, without recurrence, the cases having been operated from eight months to four years ago. All foreign bodies lodging within view are more easily removed with two hands than with one, and the resulting traumatism

and injury are almost *nil* as compared with either the indirect method or direct spatula. The cautery can also be applied from the pin-point or linear streaks to the mass destruction of Percy. In special conditions stitches can be taken and plastic flaps constructed as desired.

Dr. Lynch now finds the suspension of added advantage in what be termed combined operations, such as thyrotomy and suspension or laryngectomy and suspension; and it is likewise invaluable during the total extirpation of the larynx, especially to determine the upper limit of dissection and the final coaptation of suture for the esophagus after the total removal.

If in any case it is impossible to convert the line from the upper teeth to the base of the epiglottis into a straight line, then suspension is impossible and this surgery is not applicable, but as one's experience increased this possibility decreased, as with all technic.

Dr. Stanton A. Friedberg presented a paper on "Direct Laryngoscopy Without Suspension as a Means of Diagnostic and Operative Approach to the Larynx."

Abstract.—The essayist pointed out the fact that direct laryngoscopy has not been accorded the recognition it deserves. It is the only method whereby a satisfactory view of the larynx in infants and children may be obtained. Consequently its value in diagnosis and treatment may be readily appreciated.

The indications, contraindications and technic of the procedure were discussed. Attention was drawn to the chief causes of the difficulties and failures in making examinations.

In conclusion, the relationship between simple direct laryngoscopy and the suspension method was considered.

Dr. Otto T. Freer discussed "Indirect Laryngoscopy as a Means of Diagnostic and Operative Approach to the Larynx."

Dr. Freer referred to the tendency to limit indirect laryngoscopy to diagnosis and to regard it as entirely superseded by direct and suspension laryngoscopy in operative work. Operating by direct laryngoscopy should be reserved for extensive and formidable growths in the larynx, such as multiple papillomata, localized carcinomas that may be apparently entirely cut out in suspension laryngoscopy, broad-based fibromata or angiomata. A papilloma or a few papillomata, or a solitary pedunculated fibroma or angioma, may always be removed with little distress to the patient by indirect laryngoscopy, while to adopt the direct methods was to use a measure out of all proportion to the minute operation intended and unnecessarily imposed a good deal of discomfort upon the patient, for either direct or suspension laryngoscopy was an uncomfortable experience. For children, the direct methods are the only ones that can be used.

The indirect method had been greatly improved by superior lighting, especially by the use of the Kirstein head-lamp, whose parallel rays give it a searchlight quality with a penetration that is possessed by none other, and one that is absolutely free of shadows. Compared with this perfect light, which had been termed the "shining eye," the head-mirror was very

primitive. Instead of the long pencil of light it had merely a focal point in front of which and behind which the intensity of the illumination rapidly decreases so that unless sunlight be used it is not possible to see the bifurcation of the trachea, always brightly illuminated by the Kirstein light, especially where the umbrella filament miniature light of Bruenings is employed, designed by him especially for bronchoscopy. At present neither of these lamps is obtainable in America, as they are German products.

Dr. Freer recommended anesthesin powder, which is non-toxic, insufflated into the fauces for the production of a short local anesthesia for throat examinations.

He referred to the unpleasant sequelae of suspension, lasting a day or two, as not enough dwelt upon by writers on the subject. These sequelae are pain in the teeth and jaws, and in the neck and dysphagia, or even inability to swallow. Patients varied greatly in regard to the ease with which their cords could be exposed to view in suspension. In all cases the tongue must be forcibly crushed down by the spatula in order to get the angle of its base out of the line of sight, and the tissues between the chin and sternum are made nearly as taut as a violin string, which leaves them sore. He had found Dr. Lynch's dental spoons of great service in preventing pain in the teeth and did not understand why Dr. Lynch had abandoned them.

Dr. Freer wondered why Dr. Chevalier Jackson and Dr. Friedberg were so insistent in advocating no anesthesia for children subject to direct laryngoscopy and bronchoscopy. He thought children should be granted the relief that local anesthesia would give from the pain and strangling that passing a tube over the sensitive ciliated mucous membrane produced. He advised against upper direct bronchoscopy in small children because of the danger of edema of the glottis following this procedure, even when most carefully carried out. He always did a tracheotomy first, and in two instances this prophylactic measure had saved the life of the child.

Indirect laryngoscopy permits accurate placing of Dr. Frank Edward Simpson's radium needles, by means of Dr. Freer's needle introducer, in any part of the larynx for the treatment of carcinoma of the larynx. The needles are left in place from 6 to 14 hours. Dr. Simpson and Dr. Freer have had brilliant results in suitable cases of carcinoma of the laryngeal region and base of the tongue. Both the needles and the introducer were described and illustrated in an article by Dr. Robert Herbst in a July number of the *Journal of the American Medical Association*, but without credit to Dr. Simpson or Dr. Freer. Dr. Freer mentioned this matter in order to preserve priority for himself and Dr. Simpson.

The advantage of the radium needles over the surface application of radium is that the radiation takes place from the heart of the growth, and so reaches all parts of the cancerous mass, including its depths, evenly. Several needles are used so that the desirable "cross-firing" of the rays is obtained. The

vulnerable integument is spared and ulceration does not occur. The needles are so well screened that in their rather extensive use he has never seen a radium burn.

DISCUSSION

DR. L. W. DEAN, Iowa City, said that in only a few cases of tumor of the larynx had he thought of using the general anesthetic, but had found the suspension method very satisfactory under local anesthesia. He felt that infants and very young children could hardly be sufficiently controlled under local anesthesia for suspension laryngoscopy. He did not see many cases of laryngeal tumors, but saw a great many cases of laryngeal tuberculosis, and in his judgment Dr. Lynch's was the best method of handling these cases. After having seen Dr. Lynch do the work, he was sure that he would be able to do better work with similar cases in the future, as he saw where his former technic could be improved. In his opinion, much better work could be done in suspension, using the long needle, so that the right hand could be steadied with the left, and he believed this far preferable to the direct or indirect laryngoscopy.

DR. STANTON A. FRIEDBERG thought that in very young children there was very little to be gained under local anesthetic. The child was frightened, before one began work, and the mouth had to be forced several times in order to apply the anesthetic. With the direct method it was a simple matter to introduce the speculum and the bronchoscope also, if necessary, and delay was avoided. There was, of course, some discomfort connected with the method, but there was a question as to whether or not cocaine in children was dangerous. He felt that the advantages, if any, were outweighed by the disadvantages, and that one was really doing the best for the child by doing the work as rapidly as possible. He was not a fanatic, as Dr. Freer had inferred, in the matter of the use of direct laryngoscopy. There were many things which he liked to do with the indirect method also.

DR. THOMAS HUBBARD, Toledo, Ohio, said that in a special art like suspension laryngoscopy it was wise to get down to details. He had noticed at the clinic that the incisor hooks rested against the front teeth and there was danger of an accident. The teeth might break, with disastrous results.

The length of the spatula was another important thing. The downward thrust screw increases the length, but, in his opinion, it was better to have the proper length spatula than to try and increase it by the downward thrust. The depth of the larynx may vary in patients even of similar age and physique.

One thing about suspension laryngoscopy had a bearing on the question of general anesthesia. Anesthetists are more and more convinced that dyspnea, cyanosis or apnoea are factors in shock varying in severity in individuals. In many cases, particularly in mouth and throat operations, the degree of shock may be determined by the degree of cyanosis. Once comforting thing about suspension laryngoscopy was that with control of the tongue and an open larynx this element of shock was removed. In his opinion these factors removed objections to the general anesthesia, and in his work he was very partial to a deep ether anesthesia. Morphine and atropine should be used sparingly.

Dr. Lynch has improved the suspension instrument and technic and aided in making this method thoroughly practical. It was a great achievement to aid in developing intralaryngeal surgery up to the point where it could be called deliberate, precise surgery.

DR. HARRY L. POLLOCK said that in the spring of 1919 he had the pleasure of visiting Dr. Lynch and seeing him use his method, and then realized for the first time just what it meant. Since then he had been using the

method and could truthfully say that it was much more simple than the one he had formerly used.

As to the use of anesthetics, it was their custom to use local anesthesia, particularly cocain crystals, by means of the applicator tube, in 1:1000 adrenalin, for the purpose of taking up the cocain. He had never seen any cocain poisoning and had found this method very satisfactory. In young children one had to have the general anesthetics. There was some discomfort in the beginning, but if the patient was reassured after the first attack was over, they would lie quiet and he could keep them suspended for half or three-quarters of an hour without trouble or subsequent pain.

He did not know whether one could safely use a cautery in general anesthesia, but he had recently used it successfully in a case that he had suspended.

They did not see many cases of tuberculosis of the larynx, but in the few they had it was easy to suspend them under local anesthesia, and they could be curetted with a long curet just where one wished to use it, steadying the right hand with the left. He thought cases of simple multiple papilloma could be suspended under general anesthesia. In these cases he did not think it was necessary to repeat the operation until the mass had filled up the larynx again, and in that way one did not have to do so many suspensions.

Dr. Pollock could see no comparison whatever between the two methods for laryngeal work, although in the examination one used the two methods. Direct laryngoscopy was not used for simple examination, but if there were tumors in the larynx, one had the field in front of them and could work with both hands free, which was a big advantage.

DR. STANTON A. FRIEDBERG was of the opinion that all three methods were necessary for laryngeal work. A small nodule on the cord could be approached with infinitely less trouble by the indirect method. The point he made was that the direct speculum was of especial value in young children and in certain simple operative procedures. In conditions that were particularly difficult it could not be compared with suspension. Each method had its distinct advantages, and in order to perfect oneself in laryngology it was necessary to be familiar with all. Dr. Lynch did some things under suspension that Dr. Friedberg thought he could do as well under simple direct laryngoscopy.

DR. LYNCH thought that everyone was of the same opinion so far as the merits of suspension was concerned. There was no doubt that a great deal of work that was done under suspension could be done by the indirect method; certainly a large part could be done by the direct method, but when one had learned suspension it could be done best by that method.

As to the tooth plate, in his work he used lead foil about one-sixteenth of an inch thick, folding it over the incisor teeth a little and permitting it to project down far enough to take up some of the pressure of the outward pull. In the new position the outward pull was very slight, and since he had used this position and the lead foil he had had no accidents whatever. He always reported accidents as well as successes, for he felt that it was proper for the profession to know what had happened to him so they could avoid it themselves. In using the old position in one case they broke six teeth from the upper jaw with a portion of the alveolar process. They were wired into place and, fortunately, grew back in again. This patient was 68 years old and had a cancer of the larynx. The tracheotomy was performed and 55 mg. of radium put into his trachea, tied in between two threads, one tied to the back teeth of his upper jaw and the other to the opposite side. They had a good view of the larynx to see that it was in apposition to the growth and it was left in for eight hours. There was no difference appreciable in two weeks. The same application was made at the end of four weeks, the same amount of radium being left in for four hours. Two weeks later evidences of a radium burn began to appear around the tracheotomy wound, with no evidence of burn

around the larynx. The man died from hemorrhage of the internal jugular, which started from a slough from the burn.

The selection of a spatula for the individual case was a matter of experience. It was much better to fit the spatula to the case than to depend upon the screw to drive it down over the face of the epiglottis. The best method was to deliberately place the spatula on the base of the tongue, so as to leave the epiglottis free. This brought the epiglottis into view for operative work better than where the tip of the spatula dips down into the larynx so that the arytenoids are interfered with.

As to cyanosis associated with shock, they came into contact with that some times in papillomatous cases, and in many instances suspension of these cases had to be done rapidly with the idea of passing a bronchoscope for the maintenance of respiration. In some of these cases obstruction was extreme and they never entered one without a tracheotomy set at hand. So far they had not had to do a rapid tracheotomy on a patient while being suspended, but they had saved themselves from this on a number of occasions by the rapid introduction of the bronchoscope when the suspension apparatus had been properly placed.

In the local anesthesia in suspension, it was his custom to cocaineize the uvula with a cotton mop saturated with one per cent cocain and then one application of this to the tongue at the lingual face of the epiglottis, then two or three application of the powdered cocain dipped in adrenalin to the base of the tongue, the laryngeal face of the epiglottis, and the upper surface of the arytenoids, and then drop two to four drops of a ten per cent solution of cocain into the larynx. He thought the comfort of the local anesthesia might be increased by a previous dose of morphin and scopolamin, which they had used a good many times with success. In his opinion, local anesthesia was practical if conditions were proper for it.

They had used the cautery in general anesthesia in a good many cases and had no accident to report up to this time. The technic is that the cautery point is carefully tested away from the ether and ether apparatus and the point placed in contact with the growth before the heat is turned on. If it was not too hot, there was no danger of explosion from ether or ether vapor. Linear cauterization for reduction of hypertrophy of the vocal cords would tighten up the cord, reduce its size and restore the voice in what might seem a most remarkable way. This was done with the Yankower cautery with the finest point.

(To be continued)

Personals

Dr. J. A. Sullivan, after nearly two years service in the Medical Corps, U. S. Army, has resumed practice in East St. Louis.

Dr. H. E. Marselus, of the staff of the Jacksonville State Hospital, has been transferred to the Peoria State Hospital.

Dr. Albert J. Weirick has returned to Mar-sailles after release from service in the Medical Corps, U. S. Army.

Dr. Sidney D. Wilgus, of Rockford, has been appointed by the National Commission on Mental Hygiene to inspect all the state asylums and institutions in New Jersey.

Dr. James M. Severson, until recently a captain in the Medical Corps, U. S. Army, and in charge of an eye hospital in the Verdun sector of France, has associated himself with Dr. H. M. Starkey of Rockford.

News Notes

—The Sterling Public Hospital is the object of a drive for a fund of \$100,000 for an addition and a home for nurses.

—The Mennonite Sanitarium Association has purchased the Kelso Sanitarium property, Bloomington, and will conduct its hospital operations on an enlarged plan.

—On February 20, the United States Senate adopted an amendment to the urgent deficiency bill adding \$500,000 to the limit of cost of the Speedway Hospital, the project going to conference February 28.

—A joint meeting of the Chicago Pediatric Society and Clinic Society of the Children's Memorial Hospital was held at the hospital February 20. Dr. John A. E. Eyster of Madison, Wis., delivered the address of the evening.

—A meeting of the Institute of Medicine of Chicago will be held March 5, at the City Club, 315 Plymouth Court at 8 p. m. Prof. James R. Angell of the National Research Council will speak on "The Organization of Research in a Democracy."

—Dr. Carl Beck, secretary and manager of the Vienna Relief Fund, has received from Dr. Adolph Lorenz, Vienna, a letter acknowledging the receipt of 250,000 crowns, to be distributed for food and clothing. Since the date of that letter, \$35,000 have been cabled to Vienna from Chicago.

—A drive of the Augustana Hospital for \$700,000 for the erection of a new building was opened February 16, by the first of a series of ten dinners. Addresses were made by Chief Justice Harry Olson, chairman of the executive committee, Dr. William A. Evans, Mrs. C. A. Evald, and Mrs. Albert J. Ochsner.

—The first quarterly meeting of the Lee County Medical Society was held January 6 in the court house, Dixon. Program: "Diagnosis and Treatment of the Toxemias of Pregnancy,"

Dr. E. S. Murphy. "Treatment of Diabetes," Dr. C. H. Ives. "Non-Suppurative Diseases of the Labyrinth and Their Relation to the Other Structures of the Body," Dr. T. O. Edgar.

—Armour & Co. will be pleased to send a reprint of Frederic Fenger's article "On the Seasonal Variation of the Iodin Content in the Iodin Gland" to any physician who will ask for it. This paper records work covering more than twelve months, which work was done in the Research Laboratory in Organotherapeutics of Armour & Co. Address Armour & Co., Chicago.

—At the meeting of the Institute of Medicine of Chicago, January 30, at the City Club, Dr. Victor C. Vaughan of the University of Michigan, Ann Arbor, presented a paper on "Remarks on the Chemistry of the Protein Molecule in Relation to Infection," and Dr. Karl K. Koessler spoke on "The Relations of Proteinogenous Amins to Medicine."

—The thirty-seventh meeting of the Robert Koch Society for the Study of Tuberculosis was held January 29, under the presidency of Dr. Ethan A. Gray at the City Club. Dr. Edwin B. Tuteur spoke on "Neglected Opportunities in the Therapy of Tuberculosis"; Dr. James A. Britton on "Tuberculosis and Occupation," and Dr. Wilson Ruffin Abbott on the "Value of the Diagnostic Clinic to a Community."

—At the fifth annual meeting of the Chicago Society of Internal Medicine, held January 26, Dr. Peter Bassoe was elected president and Dr. Clifford H. Grulee, vice-president, and Dr. Chas. A. Elliott was re-elected secretary-treasurer. Dr. Hugh McGuigan discussed "Some Points of Interest in the Action of Chlorine-Containing Anesthetics and Hypnotics"; Dr. Frank Smithies described "Late Cardio-Respiratory Manifestations of Gassing in Returned Soldiers," and Dr. Anton J. Carlson spoke of "The Effects of Mass Starvation as Observed in Central and Eastern Europe, and the Practical Problem Involved in the Victualling of These People."

—The fire at Edward Sanatorium destroyed the Infirmary. The misapprehension has arisen in the minds of many people that the whole Sanatorium was destroyed. The Service Building, in which is the dining room and kitchen, and all the cottages housing the ambulatory patients were not in any manner injured so that the Sanatorium

can still take care of the seventy-five ambulatory patients.

The destruction of the medical building, of course, is a terrible loss to the institution. Accommodations for the advanced cases have been wholly inadequate for the institution for a number of years. Only the adverse conditions of the war prevented the Sanatorium putting on a campaign to raise money to put up a new infirmary during the past four years. This fire, of course, makes it imperative that efforts be made to raise the money to put up a proper building at once. In the meantime, however, the Sanatorium is caring for the ambulatory patients as usual.

Marriages

HARRY S. BERMAN, Detroit, to Miss Caroline Block of Richmond, December 23.

J. J. FITZGERALD, Granite City, Ill., to Miss Georgia Coudy of Louisville, Ky., December 3.

HARRY JULIUS ISAACS to Miss Edith Lippert, both of Chicago, recently.

MILO KIRK MILLER to Miss Freda Anita Stracke, both of Chicago, January 10.

CLARENDON RUTHERFORD to Miss Ella Williams McCauley, both of Chicago, February 4.

CHARLES A. WADE to Miss Florence Marie McGeehan, both of Chicago, February 8.

JAMES SYLVESTER ANTLE, Utica, Ill., to Miss Margaret Walter of La Salle, Ill., in Chicago, January 17.

BENJAMIN FRANKLIN DAVIS, Chicago, to Miss Marie Lucile Brickson of Stoughton, Wis., February 17.

Book Notices

We publish full lists of books received, but we feel under no obligation to review them all; however, so far as space permits, we will review those in which we think our readers are likely to be interested.

THE GOLDEN POPPY, by Jeffrey Deprend [the author of *Embers*, the ten thousand dollar prize novel], 313 pages. J. W. Wallace & Company, Chicago. \$1.75 net.

This fascinating story will well repay the busy physician for reading it. It will prove refreshing to the doctor whose mind has become fatigued from the constant reading of cold medical literature.

In a recent lengthy review of *The Golden Poppy*

S. Morgan Powell, the eminent Canadian critic, in the *Montreal Daily Star*, says:

"There is the same crisp, concise, staccato style that made *Embers* so notable. The same easy flow of descriptive work, the same incisive picturization of domestic scenes and incidents, the same vivid portrayal of French-Canadian types, life and character.

"But the dominant feature of *'The Golden Poppy'* is the skillful baring of a man's selfish soul, the unerring analysis of the gradual elimination of love for a worthless object in a woman's heart, the course of blind ambition and the splendor of the light that spells motherhood in a woman's eyes—and all that it uplifts and illumines in a woman's soul.

"This is the chief charm of the story. Mr. Deprend has let us look into the working of ambition in the mind of a selfish young man and into the effect of starved love upon the affectionate nature of a daughter of Quebec. It is a story that must have had its counterpart many a time in real life. It possesses, moreover, the hallmark of a realism as profound as that of Thomas Hardy and an insight into the subtler side of human nature that very few Canadian authors have mastered at any time.

"*'The Golden Poppy'* cannot fail to enhance Mr. Deprend's reputation. It will, unless I am more mistaken than I was in regard to *Embers*, carry him at one step to a place in the very front rank of living novelists on this continent. This is high praise, but I do not believe it to be overstating the case."

After reading this delightful story we most heartily concur in Mr. Morgan Powell's masterly analysis of *"The Golden Poppy."* It is a masterpiece both in conception and in literary execution.

THE MEDICAL ASPECTS OF MUSTARD GAS POISONING.

By Alfred Scott Warthin and Dr. Carl Vernon Weller, with 156 original illustrations. St. Louis: C. V. Mosby Company, 1919. Price \$7.00.

This is a new and original work on this subject. It contains a bibliography of the literature on gassing in warfare and is based upon investigation of mustard gas poisoning in the Pathological Laboratory in the University of Michigan. The research extending over a period of a year and a half. The work is liberally illustrated, showing the pathological lesions and their progress resulting from mustard gas poisoning.

SYPHILIS: A TREATISE ON ETIOLOGY, PATHOLOGY, DIAGNOSIS, PROGNOSIS, PROPHYLAXIS AND TREATMENT.

By Henry H. Hazen, A.B., M.D. 160 illustrations, including 16 figures in colors. St. Louis: C. V. Mosby Company, 1919. Price \$6.00.

This is a work of 647 pages quite thoroughly indexed with an excellent index of bibliography used in compilation. The work is very complete and at the same time comprehensive. Etiology, Pathology and the clinical course of the disease are gone into quite minutely. The various stages of Syphilis are illustrated. The work is divided into 24 chapters. Several

chapters are devoted to a description of the legion of the various structures such as the nail, hair, mouth, throat, digestive tract, respiratory tract, the vascular system, etc., with a chapter each devoted to prophylaxis and treatment. The work is a credit to the author.

THE SYSTEMATIC DEVELOPMENT OF X-RAY PLATES AND FILMS. By Lehman Wendell. Illustrated. St. Louis: C. V. Mosby Company, 1919. Price \$2.00.

This is a work of 78 pages, divided into ten chapters. The work is intended only for those engaged directly in the development of X-Ray plates and films and along these lines it is very instructive. Methods of development are discussed minutely, a number of developing formulas are given and the author goes into considerable detail in explaining alterations in the negative by chemical means. He gives a good description of lantern slide making. The work also describes tanks, dark room, chemicals to be used, etc.

THE PRACTITIONER'S MANUAL OF VENEREAL DISEASES. With Modern Methods of Diagnosis and Treatment. By A. C. Magian, M.D., St. Louis: C. V. Mosby Company, 1919. Price \$3.00.

This is a work of 215 pages, containing 14 chapters. In view of the great importance given to Venereal diseases of late this work is very timely. For a small work diagnosis, symptoms and treatment of venereal diseases are treated in an up-to-date manner. The author discusses Gonorrhea and its complications and various forms from the modern standpoint. A chapter is devoted to chancroid. The work also gives a chapter on diagnosis syphilis, its involvement of various body tissues, hereditary syphilis and the treatment of syphilis in general.

ANAPHYLAXIS AND ANTI-ANAPHYLAXIS AND THEIR EXPERIMENTAL FOUNDATION. By Dr. A. Besredka. With a Preface by Dr. E. Roux. English Edition by S. Roodhouse Gloyne, M.D. (Leeds), D.P.H. (London). St. Louis: C. V. Mosby Company, 1919. Price \$2.25.

This work contains 143 pages, including a very complete index of twelve pages. It is divided into eight chapters as follows: Chapter I, Introduction; II, First Studies on Anaphylaxis; III, Sensitizing or Preparative Injection; IV, Toxic or Exciting Injection; V, Vaccinating or Anti-Anaphylactic Injection; VI, Anaphylaxis in the Presence of Various Substances; VII, Theories Relating to Anaphylaxis; VIII, Recent Work on Anaphylaxis.

This is a very timely and very instructive treatise on a subject that is so little understood by the rank and file of the profession. As the author says in the preface, had this question been put to the most highly qualified bacteriologist only ten years ago, in nine cases out of ten no reply would have been forthcoming. While the subject has made such strides in recent years a large percentage of the profession

is still in ignorance of the true meaning of what today is known as Anaphylaxis and Anti-Anaphylaxis. The work should prove of immense value to the practitioner.

FOOD FOR THE SICK AND THE WELL; HOW TO SELECT IT AND HOW TO COOK IT. By Margaret P. Thompson, Registered Nurse. Cloth. ix+82 pages. Price \$1.00. Yonkers-on-Hudson, New York: World Book Company.

This is a handy little volume and should prove a valuable help to the housewife, physician and nurse. It treats of the relation of food to health and the necessity of a balanced menu. The work goes into detail regarding treatment such as baths, sponges, hot packs, salt rubs, poultices, mustard plasters, enemas, douches, etc., etc.

AFTER TREATMENT OF SURGICAL PATIENTS. By Willard Bartlett, A.M., M.D., and Collaborators. In two volumes, Volume I with 222 original illustrations and one color plate; Volume II with 213 original illustrations. St. Louis: C. V. Mosby Company, 1920. Price \$10.00.

This work is unique in that it deals almost exclusively to after treatment, operative technique is scarcely mentioned and in the few instances that it is mentioned it is done in order that the therapeutic suggestions may be completely understood. The need of after treatment of operative cases is frequently given but scant consideration in our text books on surgery and there is no doubt that a considerable number of cases have in the past been lost because of lack of post-operative care.

In these days of high cost of everything, which includes hospital service, properly directed care of operative cases is doubly essential in order to promote restoration to health at the earliest possible moment.

This book should appeal to the worker in general medicine and surgery. It is the most thorough work on this subject that has thus far come to the reviewer's attention. It is well worth the money.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY (Dorland). A new and complete dictionary of terms used in medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology and kindred branches; with new and elaborate tables. Tenth Edition, Revised and Enlarged. Edited by W. A. Newman Dorland, M.D. Large octavo of 1,201 pages with 331 illustrations, 119 in colors. Containing over 2,000 new terms. Philadelphia and London: W. B. Saunders Company, 1919. Flexible leather, \$6.00 net; thumb index, \$6.50 net.

The fact that this is the tenth edition of this work indicates its popularity and it needs no other recommendation. The latest revision has added more than two thousand new terms. The definitions are clear, terse and succinct. The work is more than a dictionary in that it gives valuable tables of tests, clin-

ical and anatomical terms, methods of staining as well as a list of stains used for clinical diagnosis.

The work is beautifully illustrated which adds to the value of the book. Every physician needs an up-to-date medical dictionary and this work will meet every requirement of the busy doctor. It is well worth the price asked for it.

PRACTICAL ORGANO-THERAPY: The Internal Secretions in General Practice. By Henry R. Harrower, M.D., Fellow of the Royal Society of Medicine, London; Late Professor of Clinical Diagnosis, Medical Department, Loyola University, Chicago; Founder of the Association for the Study of Internal Secretions, etc. 268 pages, with 5 charts; cloth, \$2.50. Glendale, Cal., The Organotherapeutic Review, Publishers, 1920.

This book represents a very exhaustive research and digest of the literature bearing upon Organo-Therapy. As the author says, it is doubtful if this material can be found between the covers of any single book.

One has only to consider the subject of the internal secretions to realize how infantile the science of medicine is. Accurate information regarding Organo-Therapy is exceedingly meager. The subject is of vast importance and plays a large part of every branch of medicine at the present time. This monograph showing the disturbances of the endocrine system should prove of distinct help to the profession.

HABITS THAT HANDICAP. By Charles B. Towns, with introduction by Richard Cabot, M.D., and a chapter on the relation of alcohol to disease by Dr. Alexander Lambert. Funk & Wagnalls Company, Publishers, New York and London.

No field of medicine has been so neglected by the general practitioner, surgeon and the public as "Drug Addiction." The charlatan and quack have taken advantage of this condition and the work that should have been done under the scientific treatment of doctors has fallen into the hands of the quack. The author points out how the habit of taking headache powders, cough mixtures and cold cures, as well as other seemingly innocent practices may ultimately lead to mental and physical breakdown. Dr. Towns' book shows how the habit-forming drug problem should be handled and the work should prove a valuable aid to physicians, nurses, druggists, social workers, etc.

YOURS FOR SLEEP. By William S. Walsh, M.D. E. P. Dutton & Company, 681 Fifth Ave., New York. Price \$2.50 net.

This work is intended for the laity. The purpose of the book is to instruct the sleepless on a few of the principles of right living, a disregard of which is most often the sole cause of their disorder. For this purpose the more common causes of Insomnia are considered at some length. The subjects treated include a chapter each on the following: The Physi-

ology of Sleep, Insomnia and Its Causes, Worry, Neurasthenia, Indigestion and Constipation, Hypertension and Arteriosclerosis, Eye Defects, Value of Exercise and Fresh Air, Wakeful Disorders of Sleep, Diseases of the Teeth and Gums, Hygiene of the Bed and Sleeping Room, Remedies for Sleeplessness. The book is well written and easily understood even from the lay point of view.

Deaths

PASQUALE MONACO, Chicago, University of Naples, Italy, 1910; aged 59; died January 22, from influenza.

ARTHUR F. SCHULZ, Chicago; Dearborn Medical College, Chicago, 1907; aged 41; was found dead in a hotel in Milwaukee, February 1, from pneumonia.

ARCHIBALD GOODING SERVOS, Havana, Ill.; Jefferson Medical College, 1886; aged 54; died, January 22, from gastric ulcer.

ARTHUR G. THOME, Chicago; Chicago Homeopathic Medical College, 1883; aged 62; died in the Chicago Union Hospital, February 17, from heart disease.

JAMES EDWARD HARPER, Assumption, Ill.; Chicago Homeopathic Medical College, 1899; aged 50; died at his home, February 21, following a sickness of six months.

ORSON HYDE CRANDALL, Quincy, Ill.; Eclectic Medical Institute, Cincinnati, 1867; aged 93; died January 17.

JOEL J. FOULON, East St. Louis, Ill.; Missouri Medical College, St. Louis, 1887; aged 57; a Fellow, A. M. A.; died January 23, from heart disease.

JOHN MAYNARD GULICK, El Paso, Ill.; Northwestern University Medical School, 1891; aged 53; died January 15, from endocarditis.

EDWARD BURNS HUGHES, Canton, Ill. (license, Illinois, 1878); aged 78; died at the home of his sister in Ipava, Ill., January 23, from senile debility.

NOAH J. LAROSE, Zion City, Ill.; Eclectic Medical Institute, Cincinnati, 1885; aged 68; health officer of Zion City since 1902; died January 18, from influenza.

CYRUS V. LUKE, Woodworth, Ill.; Illinois Medical College, Chicago, 1899; aged 44; a Fellow, A. M. A.; died January 16, from brain tumor.

NICHOLAS R. MARSHALL, Evanston, Ill.; Rush Medical College, 1867; aged 76; a veteran of the Civil War; died February 3.

OTTO JAMES BLESSIN, Galesburg, Ill.; Hahnemann Medical College, Chicago, 1901; aged 40; captain, M. R. C., U. S. Army, and discharged, January 18, 1919; died January 29.

JAMES RAMSAY FLOOD, Momence, Ill.; Jefferson Medical College, 1866; aged 81; for many years a practitioner of Chicago; died January 9, from valvular heart disease.

CHARLES FRANKLIN BANTA, Eureka, Ill.; Bellevue Hospital Medical College, 1884; aged 63; a Fellow, A. M. A.; died in the Methodist Hospital Peoria, January 10.

ORSON S. PARKER, Aurora, Ill.; Tulane University, New Orleans, 1892; aged 52; a member of the Illinois State Medical Society; died, February 5, from pneumonia.

JOHN CLARK PATTERSON, Batavia, Ill.; Northwestern University Medical School, Chicago, 1872; aged 70; died in the Presbyterian Hospital, Chicago, January 11, from pneumonia.

GEORGE W. RHOADS, Shelbyville, Ill.; Jefferson Medical College, 1866; aged 88; for forty-eight years a druggist of Shelbyville; a veteran of the Civil War; died, January 14.

FRANK A. SABIN, Anna, Ill.; Berkshire Medical College, Pittsfield, Mass., 1861; aged 84; an honorary member of the Illinois State Medical Society; died, January 26, from arteriosclerosis.

THOMAS WEST SCOTT, Rushville, Ill.; Missouri Medical College, St. Louis, 1884; aged 71; died at his home a few minutes after returning from his office, February 12, from heart disease.

DANIEL HENRY ARENDALE, Mount Vernon, Ill., University of Nashville, Tenn., 1884; aged 62; died at his farm, near Mount Vernon, January 30, from acute dilatation of the heart.

CLARENCE HOMER KEMP, Elmwood, Ill.; Rush Medical College, 1896; aged 49; a member of the Illinois State Medical Society; died, January 30, from pneumonia.

WALLACE EDGAR SABIN, Anna, Ill., Columbia University College of Physicians and Surgeons, New York, 1868; aged 74; died at the home of his brother, January 10, from cerebral hemorrhage.

EDWARD L. BLANDING, Chicago; Jenner Medical College, Chicago, 1906; aged 55; also a pharmacist; died in Lakeside Hospital, Chicago, January 25, from pneumonia.

CURTIS ELMER KELSO, Lieut., M. R. C., U. S. Army, Thomasboro, Ill.; University of Illinois, Chicago, 1905; aged 38; on duty at Fort Oglethorpe, Ga., died in the Post Hospital, Fort Oglethorpe, January 8, from narcotic poisoning.

ALONZO F. KRAMPS, Chicago; Rush Medical College, 1895; aged 54; a Fellow, A. M. A.; for many years a member of the staff of the St. Elizabeth's Hospital; died January 30, from pneumonia following influenza.

CHARLES O. WARNER, Warsaw, Ill.; Washington University, St. Louis, 1863; aged 89; assistant surgeon of volunteers in the Army during the Civil War; for many years a member of the local school board; died, January 15, from bronchial asthma.

WILLIAM LECKIE BAIN, Chicago; College of Physicians and Surgeons in the City of New York, 1884;

aged 60; for several years a resident of Denver; a specialist in the electrolytic treatment of copper ores; died, January 30, from locomotor ataxia.

ROBERT SAMUEL BENTLEY, Chicago; Northwestern University Medical School, Chicago, 1899; aged 44; a Fellow, A. M. A.; a member of the Illinois State Medical Society; was shot and killed, January 27, by a patient, who claims that the shooting was accidental.

JOHN JOSEPH ALDERSON, Chicago; Northwestern University Medical School, Chicago, 1885; aged 68; a Fellow, A. M. A.; once president of the West Side branch of the Chicago Medical Society; vice president of Grace Hospital; died January 21, from rheumatic endocarditis.

WILLIAM FRANCIS GILLIM, Chicago; University of Louisville, Ky., 1871; aged 73; a member of the Kentucky State Medical Association; for many years a practitioner of Owensboro; while returning to his old home in Owensboro, February 4, died at Evansville, Ind.

ALBERT WOELFEL, Chicago; University of Leipzig, Germany, 1902; aged 48; a Fellow, A. M. A.; for several years instructor in physiology, and for a time in charge of the physiological laboratory in the University of Chicago; managing director of the Physicians Radium Association of Chicago; died, January 31, from pneumonia following influenza.

WILLIAM HENRY COOK, Coffeen, Ill.; Washington University, St. Louis, 1867; aged 85; a member of the Illinois State Medical Society; a charter member of the District Medical Society and for two years its secretary; one of the organizers of the Montgomery County Medical Society, and at one time its president; died January 28, from senile debility.

JOHN DONNINGTON BARTLETT, Major, M. R. C., U. S. Army, Grass Range, Mont., formerly of Galesburg, Ill.; Rush Medical College, 1905; aged 39; a Fellow, A. M. A.; at one time health officer of Galesburg; who became of unsound mind while serving with the Expeditionary Forces in France; was brought home, placed under treatment at U. S. General Hospital No. 28, Fort Sheridan, Ill., and then committed to the Watertown State Hospital; committed suicide by strangulation, January 12.

MAY CUSHMAN RICE, Chicago; Northwestern University Woman's Medical School, Chicago, 1896; aged 56; a Fellow, A. M. A.; a specialist in roentgenology and electrotherapeutics; died, February 4, from pneumonia, following influenza.

JAMES ALBERT RUTLEDGE, Woodmen, Colo.; Rush Medical College, 1866; aged 58; a Fellow, A. M. A.; formerly a practitioner of Elgin, Ill.; medical director and superintendent of the Modern Woodmen of America Sanatorium since 1911; a specialist in tuberculosis; died in a hospital in San Francisco, February 3, from influenza.

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Original Articles

A NEW SKIN SUTURE MATERIAL*

EDWARD H. OCHSNER, B.S., M.D., F.A.C.S.

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CHICAGO

An effort to avoid unsightly scars following surgical operations has probably been made by nearly every surgeon since surgery has risen to the rank of one of the arts and sciences. One of the oldest methods to secure this result of which I have been able to find a record is that illustrated in Figure No. 1, which may be described as "Transfixion Needles," with figure of eight ligature. This method of skin closure is one which I saw illustrated some years ago in an old surgery, but am unable now to find the reference or illustration. Up to the time of the introduction of antiseptic and later aseptic surgery not much progress was made in scar prevention, because suppuration defeated the attempt in the large majority of cases and apparently discouraged those who were interested in the problem. Since the introduction of modern surgery, however, much progress has been made in this line. Various devices have been resorted to, but the multiplicity of methods of skin closure which are still in vogue are the surest evidence that none of them is entirely satisfactory, for as soon as a universally satisfactory method is discovered, it usually supplants all others.

For a time metal clips were used by many surgeons, but I believe relatively few use them now. Personally, I have never been able to find any advantage for clips except that they do usually secure accurate coaptation. They have the disadvantage that they must be frequently renewed because they are constantly being lost and bent out of shape. Large numbers are required in a busy surgical hospital. They are apt to

get caught in the dressings and cause more or less pain and they tend to irritate the skin and leave numerous puncture scars.

Adhesive straps have the advantage of preventing stitch marks but do not always secure accurate coaptation, retain secretions, or are apt to be loosened by them, get out of place easily and are troublesome to apply.

The transfixion needle with figure of eight ligature, above referred to, has been quite generally discarded because the needles always catch in the dressings, causing considerable pain and discomfort, and they have the further disadvantage that if accurate coaptation is to be secured a large number have to be introduced.

The subcuticular stitch, while a favorite with many, has the great disadvantage of being painful to remove and of being not entirely dependable in all cases. While it works beautifully in a considerable per cent. of the cases, occasionally it causes puckering in spite of the greatest skill and care in its use. I have seen many surgeons operate but I have never seen one who always got uniformly good results with the subcuticular stitch.

In view of the above, these mechanical devices have all lost their popularity with the majority of surgeons and are only resorted to in the exceptional instance and the visible coaptation suture is still the one most generally employed. For this purpose a great many different kinds of material have been and are still being used.

Silk is the oldest and has been the most extensively used of all suture materials. It was probably first used as plain silk and later as braided silk. Both have the advantage that they can be readily procured in different sizes, are easily sterilized by boiling, do not deteriorate within a reasonable period of time, are of uniform strength, cheap and can be securely tied. They have the great disadvantage of leaving stitch marks when used in the skin, of causing severe pain when being removed, this being particu-

*Read before the Chicago Surgical Society, November 28, 1919.

larly true of the heavier braided silk, and the very fine silk has the further disadvantage of snarling easily and deteriorating with age.

Silver wire is a very old suture material, possibly as old as silk, not much used now except in bone work.¹ It is easily sterilized and kept sterile, does not deteriorate with age, but is rather expensive, apt to break on tying or twisting, hard to tie, difficult to draw through, catches

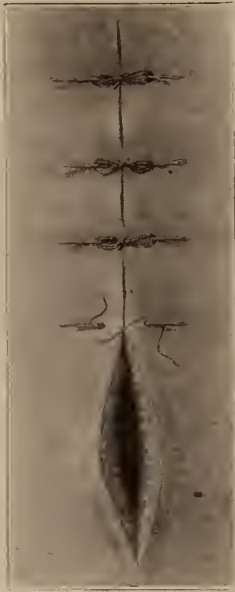


Fig. 1.

in dressings, causes pain, rather too thick, causes considerable irritation and hence stitch marks.

For a time catgut enjoyed considerable popularity in skin suturing and while it is easily procured in various sizes and quite readily sterilized, it has the disadvantage of being rather expensive, hard to keep sterile, knots slip quite easily and of causing marked irritation of the skin with resultant stitch marks. The liquefaction of the catgut suture also simulates true infection and often annoys, mentally disturbs and irritates the more intelligent patients who are somewhat informed on the subject of wound infection.

Horsehair has had its ups and downs in surgery. At various times in the past it has had great popularity, then discarded, only to be revived again. It is the least irritating of all the skin suture materials so far employed, but it is difficult to procure in good quality and suitable

lengths unless the gathering and preparing has been done with great care, in which case it is quite expensive either in money or labor. If not gathered and prepared with the utmost care, the strands vary greatly in length and strength, many of them being too short and too weak, and while safely sterilizable by boiling and easily stored when properly put up, it is friable and snarls easily.

Silkworm gut. Easily procured in various sizes, relatively cheap, easily sterilized and stored, lacks flexibility, has a tendency to unthread and untie. Cut ends likely to stick into skin and cause pain. Strands too short for many purposes, especially in very obese patients, too thick for fine coaptation work, irritates skin considerably and leaves stitch marks.

Celluloid thread or Pagenstecher's linen is linen impregnated with celluloid, is flexible, does not become tangled readily, but at times is difficult to procure in good quality, not always even



Fig. 2.

and uniform in thickness, irritates skin considerably, must be sterilized by boiling in a 1 per cent. carbonate of soda solution. This last makes its use objectionable, as it cannot well be sterilized with the instruments and really requires separate sterilization, and hence extra work.

From the above, we have the right to conclude that none of the skin coaptation sutures

1. Keen's Surgery 1909, Volume 5, page 601.

which have so far been used have been entirely satisfactory; in fact, they all have some serious objections. I have tried them all at various times and have personally experienced the objections above cited. In my own personal work horsehair has given the best results so far as preventing scar formation is concerned. When accurately, carefully applied and when immediately covered with a layer of tincture of benzoin concentrated to the consistency of New Orleans molasses, a visible scar can actually be avoided in a very large per cent. of the cases. Because of the disadvantage above cited, I have, for the past fifteen years or more, been constantly seeking for a material which would have the advantages of all and the disadvantages of none. I believe I have finally found such a material.

The principal causes of scar formation following operations are infection, necrosis, chemical irritation, and liquefaction of the suture material used. In clean operations the first, namely, infection, can and should be avoided in practically every instance, no matter which one of the above suture materials or devices is employed. Necrosis can also be avoided in nearly every case with the ordinary suture material; however, if the skin is very delicate, the more rigid suture materials, such as silkworm gut and silver wire, will sometimes cause local necrosis and should not be used in such instances. When the above two causes of irritation are excluded a skin coaptation suture causes local irritation only because of two other conditions: First, whenever there is some chemical irritation and, second, whenever the suture material is absorbable, that is, can be attacked by the cells of the body. The former source of irritation was forcibly brought to my attention while a postgraduate student in Hamburg. Prof. Kuemmel, being dissatisfied with silk as a skin suture material, tried out Credes' silver catgut and, to his and everyone else's surprise, little droplets of yellowish pus formed around nearly every stitch. This was most carefully examined microscopically and culturally and was practically always found to be sterile and the conclusion was reached that the soluble silver caused chemical necrosis. Other surgeons have had similar experiences when silk has been stored in very strong chemicals, such as strong bichloride of mercury.

The one great advantage horsehair has over all other skin sutures is that the chitinous covering of the horsehair is a substance which the cells of the body cannot attack. As a consequence, there is no rush of leucocytes to the suture point, no hyperemia and no liquefaction. Other things being equal, the more readily absorbable a skin suture material is the more reaction, the more liquefaction and the more scar formation. I have felt for a long time that if a suture material could be devised which is non-penetrable to the cells of the body, which is non-irritating chemically, which is pliable, smooth, of uniform tensile strength, of considerable fineness and determinable length and which can be readily sterilized by boiling in plain water, and easily stored, the problem would be solved. For a number of years I made a diligent search for such a suture material, but failing, I finally prevailed upon my friend, Prof. Louis Kahlenberg of the University of Wisconsin to make a study of the matter. After several months of chemical experimentation on his part and clinical trial on my part I believe he has been able to prepare a suture material that fulfills all of the above requirements. He has called the suture "Equisetene" and has arranged to have it manufactured by the Ideal Skin Suture Co. of 1316 River St., Two Rivers, Wisconsin. The word "Equisetene" comes from the two Latin words, "Equus" the horse, and "Seta" a hair, the ending "ene" a common suffix used to indicate that it is a substitute. Thus, the word "Equisetene" means "horsehair substitute." This suture material is made by treating silk chemically so that the tissue cells cannot penetrate the meshes of the silk. In addition, it renders the silk smoother, a little stiffer with less of a tendency to snarl, in fact, overcomes all of the objections to silk as a coaptation suture without robbing it of any of its desirable qualities.

The suture material is put up in two sizes, the fine which is colored a jet black is about one-half as thick as average horsehair with more than three times the average tensile strength of the best horsehair which we were able to procure for comparison, the best horsehair by actual test varying from 218 to 338 grams, while the

"Equisetene" never dropped below 838 grams. I consider No. 1 a perfect horsehair substitute with all of the advantages of horsehair and none of its disadvantages. The three great advantages over horsehair are, that it is much stronger than the latter, of uniform strength and can be cut in any length desired. A bright surgical nurse by looking at the wound can determine at a glance the length required. Personally, I like to use it double with a stitch forceps at the end and I find it particularly useful in those cases where I like to employ the stitch illustrated by Figure 2, as in appendicitis and hernia operations. By first making a tension stitch which catches the skin, superficial fascia and deep fascia, all dead spaces are obliterated and the coaptation stitches are relieved of practically all tension. The No. 2 is manufactured in a grayish black color so that it can be distinguished from the No. 1 without the necessity of its being handled. This has a tensile strength of 2,500 grams, can be used as a silkworm gut substitute and will, I believe, be welcomed by those who are partial to the subcuticular stitch. It is not quite as stiff as silkworm gut and yet not as pliable as silk, pulls through the tissues very smoothly and easily. As the cut ends do not stick into the skin it is particularly adapted for operations about the natural orifices such as perineorrhaphies and operations about the mouth, nose and eyes.

The material is put on small wooden slats, each slat containing 30 feet of one variety of the suture material. I have now used the suture material as finally perfected in considerably over one hundred patients each having one or more skin incisions. I have used the No. 2 as a substitute for silkworm gut for the deep tension sutures in all cases. When so used, I have used it double with a stitch forceps grasping the two ends of the suture. This prevents unthreading without the necessity of tying it to the needle. The needle when thus armed passes through the tissues much more readily than when armed with silkworm gut and never unthreads. The No. 1 I have used as a horsehair substitute for the coaptation suture and I believe this suture material comes about as near being ideal for these purposes as any suture material possibly can.

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WAR NEUROSES AND PSYCHOSES: THEIR AFTER-CARE AND TREATMENT*

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The medical problems of after-war care and treatment of discharged soldiers and sailors are now paramount, and need thoughtful consideration, conservative care and intelligent treatment. No group of cases gave more concern, or were more formidable during the combat period of the war, in all of the armies engaged, than the war neuroses.

The frank psychoses and the mental deficiency cases presented nothing unusual save for the coloring which war imparted. And by reason of the lack of familiarity with mental and nervous disorders on the part of many Army and Navy physicians and medical members of examining boards, more or less confusion, sometimes immediate and not infrequently much potential danger, originated because of the presence of such cases in the lines, in the camps and on shipboard, while many of them created complicated problems for the Examining Boards. The lesson which the medical profession should learn from these accumulated experiences is the recognition of the fact that we are sorely in need of more general diffusion in the rank and file of the medical profession of a working knowledge of mental disorders.

Mental hygiene won for itself a place in this world's war which has fixed its status as an economic and social need, just as real and important as any other public health measure. The records of the medical service of the Army, Division of Neurology and Psychiatry, and the Division of Psychology, will show epoch working advancement in the practical clinical application of the essential principles of mental hygiene.

Further, the incorporation of these principles in the clinical medicine of the future is an assured fact. Let me mention that in one of the

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new medical publications forthcoming on the recommendation of one of us, proposes to include a chapter on Mental Hygiene. Five or six years ago such a suggestion would not have had very much consideration; but the experiences of the war have taught us all that mental disorders are actualities having clinical value and are important factors in the equations of efficiency and social problems.

Above all, they impart a trend in medical and surgical problems which in the past, seemingly, were not infrequently lost sight of, even by very careful clinicians. The recognition thus given to neuro-psychiatry during the war is having very wholesome recommendations in the reconstruction policies adopted by the United States Public Health Service.

While doubtless all of you are more or less familiar with the scheme and plan of organization of the United States Public Health Service; yet we dare say the special provisions for care and treatment of mental and nervous cases is not as well known as it should be. With the authority of Surgeon General Blue we present the essentials of these special provisions, which are as follows:

The provisions for the care and treatment of War Risk Insurance patients is a duty that has been accorded the Surgeon General, U. S. Public Health Service, and the central administration and definition of policy is conducted in the Surgeon General's office, Washington.

The administration of the Medical Division of the Bureau of War Risk Insurance is carried on by officers of the Public Health Service.

The United States has been divided into fourteen districts. A medical officer of the service is in charge of each of these districts. So-called hospitalization units are being established in the larger cities. Smaller subsidiary units are being established in smaller cities. Designated local examiners are being appointed in each county. Any unusually obscure or extraordinary case is referred to the hospital unit nearest the patient's residence for diagnosis, observation, treatment, recommendations, etc.

The district supervisor's office carries on the administrative work of the district. The district supervisor is also in immediate charge of the hospitalization unit in his city.

The hospitalization units in general comprise an office equipped for making physical examinations, a staff of full and part time officers of the service, and consultants in the various specialties. A service hospital or civil hospital or both are utilized to care for patients while undergoing examination, or for treatment after a diagnosis has been established. The size

of the unit depends upon the amount of work at the station.

The task of providing adequate facilities for neuro-psychiatric patients forms a very large and complicated problem. The service feels that this branch of medicine presents very special responsibilities. The service desires to avail itself of, and to be guided by, the best scientific advice obtainable. The co-operation of many of the most noted specialists in the country has been asked, and the response of these men has been without exception unreserved in their offers of assistance.

There is an advisor or consultant planned for each district supervisor. This consultant to the district supervisor has been selected because of his knowledge of the neuro-psychiatric problems of the particular district. His particular duties are to recommend the policies of the district, are therefore administrative in nature, and only incidentally connected with the actual business of examining individual patients. The latter duties are accomplished by full or part time specialists or consultants that form an integral part of their particular hospitalization unit.

The service has already established five special hospitals, two for the insane, one at Dansville, New York, and one at Parkview, Pennsylvania; two for psychoneuroses, one at Waukesha, Wisconsin, and one at Cape May, New Jersey; and one epileptic hospital, at East Norfolk, Massachusetts. In addition, a number of psychiatric wards have been established in general hospitals operated by the service, for instance, Boston, Massachusetts, Stapleton, New York, Baltimore, Maryland, and Chicago, Illinois. An extensive program for additional special hospitals and psychiatric wards is under consideration and will be presented before Congress in the near future.

The organization of the individual hospitals is a detail that would probably be out of place here.

An extensive program of field investigation and follow up work is planned. At the present time it is impossible to provide home treatment for patients who are at large in the community. It is, however, believed to be entirely practicable to inaugurate a system of follow up or social service work amongst these patients in their homes. Such duties will be carried on both by trained personnel of the Public Health Service and in conjunction with the American Red Cross.

The problem of securing adequate personnel has been a rather pressing one in the past. Every effort is being made to solve this problem and it is believed that the special hospitals operated by the Public Health Service may be made so attractive to the specially trained physicians that the situation will not at any time become acute.

The service intends to utilize as far as practicable, in the treatment of mental diseases, the existing hospitals and out-patient facilities of the public institutions for the insane that reach a sufficiently high level of excellence. The states have been communicated with in this respect and arrangements have been perfected for some time with the hospitals designated.

It is felt that the present situation offers excellent opportunity to further co-ordinate state activities with those of the Public Health Service.

A rather extensive scheme of inspection is under consideration. It is believed that all of the special service hospitals and those general hospitals that have psychiatric wards will be periodically inspected by individuals and boards. It is further anticipated that all hospitals caring for beneficiaries of the Public Health Service will be inspected.

In view, therefore, of these provisions so amply contemplated or now in force by the United States Public Health Service that to make practical their application in the communities it is necessary that the family physician or local social agencies in contact with nervous or mental cases notify the local acting medical officer of the U. S. Public Health Service that due attention and consideration may be given to the individual discharged soldiers and sailors. Let us not forget that many cases originating in the Army and Navy, anxiously waiting to be returned home and to be discharged from the service of their country, are successful in repressing their perturbations, even to the extent of passing the boards of discharge, and not until within the environment of home and meeting with perplexing problems do they find refuge in and exhibit complete clinical evidence of the neuroses or the more profound flight from reality in borderline or defined psychoses.

The interesting psychological defense reaction to be noted in these cases explains the fixed syndrome which gives so much concern to the homefolks and the family physician. The clinical differentiation of these mental perturbations is apt to be over or under estimated by the inexperienced physician, while the homefolks in the goodness of their hearts, are sure to contribute to the fixedness of the syndrome if they are not wisely guided in handling these important cases.

The mental mechanisms as shown in the clinical pathology of war neuroses are now recognized as clear cut and comparatively easily interpreted by experienced clinicians. The patient is in conflict with circumstance or environment or both, and the end results in conduct are mal-adjustments in the individual's endeavor to follow the "first law of nature," self-preservation. He wills to live and follows a behavior pattern which his personality dictates to free him from the dilemma in which he finds himself thrust by the realities of circumstance and environment. He is simply

defending himself "while immersed in the continuous bath of environmental stimuli."

It is incumbent upon us all to remember these dynamic biological factors which are fundamental in the study of our clinical problems. They are reactions in behavior in which the patient seeks to achieve the maximum results of his cravings, desires, wishes, etc., with the minimum expenditure of his resources. This principle holds good in the interpretation of behavior which is always the clinical index of problems in mental adjustment.

We present the following cases with interpretations as examples of the problems to be encountered and in which the guiding principle is the endeavor on the part of the patient to seek a refuge or "an escape from an intolerable situation in real life, to one made tolerable by the neurosis," or the psychosis. This principle is to be found working its way through the formidable labyrinthian reactions shown in the behavior of the patient. These reactions, let it be said, carry with them the utilitarian need which the flight from reality may indicate as desirable even though that need may not be completely attained:

Case 1. (1965) physician, age 54; had served as Head of Medical Advisory Board in his community; entered service Aug. 2, 1918; went to Medical Officers' Training Camp, Ft. Oglethorpe. Had been under strain while at head of Advisory Board. Became more nervous, feeling of apprehension, worry about himself, while at camp. Was discharged S. C. D. Sept. 18, 1918. At sanitarium near home. Entered sanitarium Oct. 26, 1918. Family and past history good. Physical examination; fairly well nourished; some pallor of skin and mucous membranes; tonsils and pharynx markedly injected. Slight sclerosis of brachial and radial arteries. Upper reflexes normal. Lower active, plus 1; no pathological reflexes. Some degree of anemia. Wassermann reactions negative. Mental attitude; co-operative, some general depression, moaning, lamentation as regards his own condition; anxious about himself; oriented as to time, place and person. Recent and remote memory excellent. No hallucinations. Flow of thought and psychomotor activities retarded by depression. Course: above examination represents most recent physical findings. Patient much more depressed, confused, on entrance; auditory hallucinations for a time, broke window glass, and attempted suicide by swallowing glass about a month after entrance; was restrained from this and transferred to another house. Quite confused; had delusions of impending punishment for attempt at suicide and for various acts done by him while in Government service. Has now cleared up entirely, save for fixed ideas of guilt and

fraud in regard to application for compensation and in regard to punishment for attempt at suicide, and has made some adjustment to that situation. Physically, greatly improved. Aided in care of other patients; offered valuable professional advice and used excellent professional judgment. Discharged five weeks ago to go home.

Diagnosis: Involution Melancholia.

Comment: This case is of the type of anxiety situation occurring during involution period, with definite reactions producing the diagnosis given above. An overworked physician, inspired by motives of patriotism, enters Medical Corps, finds he is inadequate as regards the active work of a medical officers' training camp; becomes depressed, worried, feels he is of little use to this country in time of emergency. This condition is accelerated perhaps by his discharge on account of inadequacy; becomes more and more depressed, situation becomes intolerant for him. Attempted suicide; feeling of remorse for attempt at suicide; feels he deserves punishment and that he is to be punished. The type of fixed idea seen in Involution Melancholia occurs with reference to himself.

Case 2. (2056) P. I. Soldier; voluntary enlistment, served at Camp McArthur, Texas. Was discharged in January, 1919, on account of nervous breakdown; discharged on certificate of disability. Worried and depressed at home after discharge; then developed influenza, ill two weeks; never regained strength nor normal mental reactions afterwards. Disagreeable at home, not pleased with care given him; fear reaction in regard to himself and his recovery.

P. H. is of interest in this case as showing under strain of military life, a personality not always adequate, may break down and produce a neurotic condition. Rather mischievous as a child. Married at 21, to a girl whom he had known six weeks; domestic life unhappy, with frequent emotional outbreaks on part of patient. Wife deserted him to go with another man.

P. E. Cold, moist skin. Irregular pupils, reacting normally. Tendon reflexes hyper active. Superficial lively. Gordon, Babinski, Chaddock and Becherew on the left. A fine terminal tremor of the extended fingers and hands. Wassermann on blood and spinal fluid both negative.

Mental attitude: oriented; marked depression, anxiety, some psychomotor retardation; grasp normal. Flow of thought retarded.

Course: since being in the sanatorium, patient has had alternating periods of depression and more normal outlook on life. Physical condition has improved greatly. Mental attitude at times sullen, morose; marked fear reaction and an anxiety situation, as regards himself and his family, and his reactions in

the military service. No evidence of deterioration. No periods of excitement.

Diagnosis: Psycho-neurosis, allied group, anxiety type.

Case 3. No. 2159. Private, in 27th Engineers, entered service in June, 1918; by draft, Camp Taylor. Went to France in August; was at front, was badly frightened, shivered and was cold; memory of events clouded by more recent more acute situation. Went through duties evidently mechanically; returned to this country landing April 21, 1919. While at Camp Merritt, received telegram stating his mother was dead. Discharge from service accelerated for this reason. Could not recall date of discharge; became worried, fearful and confused, from time of hearing of mother's death. Went home at once. Did not seem to patient that mother could be dead; confused about home situation; despondent, depressed, quarreled with brothers. Became more and more confused, was sent to sanatorium.

P. E. Negative save for slight dullness both apices, with respiratory change on right; no rales; active reflexes; Wassermann both on blood and spinal fluid negative.

Course: patient responded well to treatment at onset. Cleared up to almost no confusion and fairly definite insight. With onset of insight he became worried about the condition through which he had just passed, depressed, worried about himself and his future; slipped back into general depression; psychomotor retardation; some impulsiveness of movement to apparently sudden stimulus; irrational, resistive about food and medication. Now has cleared up partially from this situation, still somewhat depressed, with easily aroused emotional outbreaks of crying. Physical condition better; has gained in weight.

Diagnosis: psycho-neurosis, allied group. Confusional Stuporous State.

Comment: This case illustrates well the point that with a somewhat unstable nervous and physical mechanism, strain, in this instance the news of death of his mother, produced a neurosis not directly due to military conditions, but patient's general reactions had been influenced by military service, producing the lowered threshold, making him more readily responsive to such stimulus.

Case 4. No. 2216. Mine motorman by occupation. Drafted. Entered service June 25, 1918. Went to France in September, 1918, served at one of the base ports. Apparently normal in every way until attack of influenza in April, 1919, with an ear complication. After recovery from acute attack, did not feel so well but was able to go on with his work, and came home with his organization. Recurrence of otitis media en route to U. S. with marked increased nervous symptoms, chiefly apprehensive in nature. Was sent to Camp Grant, Ill, discharged from there; was one week in base hospital there for observation; discharged through the regular channels. Patient

states when he swallows, there is a click in his ear; thought he has pus in the ears and pus on the brain. Attacks of weakness; frontal headache; slight vertigo; odd dreams in regard to himself as being dead; retrospective and introspective; fear of not recovering.

P. E. (positive findings only).

At time of entrance, slight sclerosis of drum membranes, otherwise ears normal. Inequality of pupils, reacting, however. Lungs: a few moist rales over right middle lobe with slight increase of vocal fremitus. Reflexes: upper normal; lower diminished throughout.

Mental attitude: introspective; delusions in regard to bodily condition.

Partial insight. Course: under improvement of physical condition, reassurance, analysis of symptoms, patient has made marked improvement. Has now been in the institution a little over two months; will be ready for discharge in about two weeks.

Diagnosis: psychoneurosis; anxiety type; post-influenzal.

Comment: An apparently adequate personality brought to the psycho-neurotic stage following an influenzal attack. From some army medical experience this man had enough medical knowledge to suspect a cranial complication of his otitis media. Analyses has brought out this and under suggestion and reassurance, based on this analysis, the improvement has taken place.

Case 5. No. 2232. Mine driver, single, age 36 years. Family situation difficult from financial standpoint. Case referred and handled by Red Cross. Past history contains story of moderate use of alcohol and primary luetic infection 11 years ago. Enlisted in May, 1917, served on the border throughout enlistment. No history of mental trouble early in service. While working as fireman at the base hospital, Camp Travis, he was injured in the back by auto running into him. Paralyzed for five days. In hospital twelve days, then returned to duty. Was discharged March, 1919, no mention of any disability on discharge. However, as soon as he returned home and went back to his old occupation, his family and his employers noticed mental changes, forgetfulness, inability to handle money, neglect of personal appearance, exaggeration of ideas. Was discharged from work because of continually running by block signals in mine.

Entered Aug. 11, 1919, to sanatorium. Examination showed irregular sluggish pupils, scar on back, of old injury, old healed scar of primary lesion on genitals. Reflexes hyperactive. Mental examination showed exhilaration, exaggerated ideas of wealth and position; some impulsiveness of thought and action. Wassermanns on both blood and spinal fluid were strongly positive, with a paretic curve in the Lange test of the latter.

Course: under active anti-syphilitic treatment, salvarsan O. 4 grams weekly, and mercurial inunctions

weekly, spinal drainage once every two or three weeks, there has been some improvement, though the prognosis is unfavorable.

Comment: This is a frank psychosis developing evidently in service though the history of its onset is obscure. Certainly there must have been some change in his mental reactions while he was still in the army, yet he was not discharged S. C. D. and his physical condition is reported excellent. The accident may have had something to do with the onset; the patient and his relatives attribute all his difficulties to it.

Case 6. No. 2234. P. I. Male, aged 29 years; married; one child. Entered service Sept. 5, 1918, at Camp McArthur, Texas. Developed influenza at Camp McArthur in October, 1918. After recovery from this, had polyuria about two weeks; went to Regimental Infirmary and Clinic of Urology where sugar was found. Discharged on S. C. D. Nov. 3, 1918; had not been under any special treatment until referred to sanatorium, July 31, 1919. Has passed large quantity of urine, lost weight, worried; somewhat drowsy, especially recently. Now complaining chiefly of drowsiness, polyuria, including nocturia, and weakness. Very marked apprehension and worry in regard to his condition.

P. E. (positive findings only given).

Mucous membranes pale. Breath acetonic. Pupils unequal, respond sluggishly to light. Tonsils enlarged, spongy, right shows focus of infection. All reflexes depressed. Mental attitude: depression and apprehension; fully oriented; no delusions or hallucinations; psychomotor activity retarded. Laboratory studies; hemoglobin 64 per cent Dare. R. B. C. 36,688,000. Urine; 1st specimen, specific gravity 1.032; sugar 4.5 per cent. Acetone and diacetic acid, large traces. Microscopic negative.

Course: patient was advised to enter sanatorium but could not at that time. Went home; returned in two weeks. One urinary specimen in intermediate time showed 2.5 per cent. sugar. Returned to sanatorium; 1st 24 hour specimen of urine 3,560 cc; sugar 7 per cent.; acetone and diacetic present. Blood sugar on corresponding date 0.248 per cent. Patient remained in sanatorium ten days under preliminary fasting, then fasting treatment. Did not co-operate well in regard to dietary management. Last specimen before discharge 2400 cc; 1 per cent. sugar; no acetone or diacetic acid. Returned home; did not follow a dietary management; is still showing sugar and complaining of weakness; worried about himself, but is not sufficiently adequate to co-operate in treatment.

Diagnosis: Diabetes Mellitus. Acidosis at entrance.

Comment: While this case is not strictly a mental situation, it was referred on account of symptoms of apprehension; the medical condition being the cause of the symptoms. Were this

patient sufficiently adequate to co-operate well in treatment, the prognosis would be distinctly different.

Time will not permit us to enter upon the detail of after care and treatment. Briefly, however, the essentials to be kept in mind in dealing with these important cases are: 1. The psychological basis is not to be lost sight of, and in all ways and means of treatment the psychological effect must be paramount. 2. Proper environmental arrangements to permit of systematized treatment: to re-establish sleep habit, promote rest, and the rehabilitation of physical condition of the patient. 3. When the patient is accessible to judiciously analyze in a common sense way, his symptoms, that we may thus combat the patient's anxieties and give assurance that he will get well and that his recovery will be hastened by his co-operation. 4. To provide ways and means for distraction from his anxieties, by creating interest in other things than in his own vicious introspective circle of thoughts. No fixed rules are to be followed, but games, walks, occupational therapy, etc., are invaluable in promoting concentration of thought, creative interest in doing and in accumulating reserve with a return to normal capacity in thinking, feeling and doing.

Treatment, to be constructive, must always consider the potential factor of home environment as contributory to the invalidism. Hence, isolation from the home environment is of the first importance, while creating a wholesome optimistic environment where treatment is to be instituted is no less important. It really is the beginning toward recovery because by this means we remove the most obvious contributing factors, the over-sympathy and indulgence of home folks, while placing before the patient in the true spirit of analysis the way out of his dilemma.

Mac Curdy well says, "A demonstration of interest in the patient is of great value. The physician must learn to have a keen sympathy for the patient as an individual, but never to have any sympathy whatever for the patient's symptoms as such. This is not any easy attitude to acquire, and is probably the reason why few physicians who are not trained psychiatrists are successful in treating the war neuroses."

And, we may add, this fact is true in peace neuroses, in frank psychoses when treated within the province of the patient's own home. It is an

unfortunate fact that in the ordinary life of peace times civilian types of neuroses and borderline psychoses are injudiciously made the victims of home environmental and circumstantial conditions.

The advent of compensation acts, boards of arbitration, etc., created conditions in peace times not unlike those to be encountered as the result of war, where problems in adjustment, compensation, etc., are to be met. Your attention is called to the possibilities that certain types of personality will occasion exaggerated claims for indemnity and compensation, thus calling for careful consideration and thorough study of the cases (including personality) before just settlements can be recommended.

We appeal, however, to you to be prompt in your first aid in all cases, urge treatment and help in every way you can, that the deserving discharged soldier or sailor may early receive the benefits to which he is entitled under the War Risk Insurance Act.

THE DOCTOR AND THE PUBLIC HEALTH*

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Public health as a distinct part of governmental activity and as a special scientific vocation is of relatively recent development. At the time of the creation of the Illinois State Board of Health in 1879—a matter of forty years ago—Dr. John H. Rauch, the Secretary of the first Board of Health, was regarded as a pioneer in public health activity and Illinois claimed the credit of being one of the earliest states in the Union to devote attention to the protection of the lives and health of her people. But at that recent date public health had only a remote resemblance to the preventive medicine of the present day. The State Department of Public Health of forty years ago, of thirty years ago, or of twenty years ago, devoted itself almost entirely to the suppression of communicable diseases after an epidemic had occurred or to the suppression of nuisances which made themselves

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known by noisome odors or offensive appearance and which may or may not have had anything to do with human illness.

In fact, these old-time organizations were designed and maintained chiefly to meet emergencies and were relatively dormant and inactive between periods of public catastrophe. It must be borne in mind that at the time of the establishment of the Illinois Department of Health the causes and means of prevention of most of the communicable diseases were wholly unknown. There were few local health departments and those that existed were usually headed by laymen who served more in the capacity of policemen than as sanitarians of public health. For the most part the health adviser of even the towns of considerable size was the family physician who added this duty to his manifold functions as physician, surgeon, obstetrician, dentist and not infrequently other activities having little or nothing to do with his professional life. Even a brief review of the public health development of the nation would be inadequate and incomplete without a tribute to the medical profession which has given us our scientific basis for modern public health and to the hardy pioneers who served without remuneration and without reward as the health counsellors of their communities.

The public health official of the present time speaks an entirely different language from that employed by his predecessor of forty years ago and practices an art which was entirely unknown in a previous generation. The modern health officer follows a distinct specialty which, in its important medical phases, differs more from the general pursuit of medical practice than dermatology does from abdominal surgery. In addition to these medical phases of public health, however, there are numerous other elements essential to the development of public health work which have little to do with the practice of medicine in any way. The modern health officer must be conversant with a large part of medical knowledge, it is true, but this knowledge must be supplemented by a knowledge of government, of law, of administration and of executive control which have little to do with the treatment of the sick. As a matter of fact, the public health of the present day, while closely associated with general medicine, is so distinct a specialty

that several of the larger universities, giving courses for health officers, do not require a medical degree as a prerequisite.

It is my personal impression that a broad general knowledge of medicine and of medical practice is of distinct value to the public health officer, not that the complete course in medicine is essential to him in the pursuit of his calling but chiefly because his medical experience affords him a greater knowledge of the problems that confront the physician and acquaints him with the point of view of the medical profession, for however widely preventive medicine may depart from medical practice, there will, of course, always be a close and important inter-dependence between the public health official and the medical profession.

Yet it seems to me quite necessary that the physicians of the nation, engrossed though they may be in their arduous duties, shall observe the rapid strides with which preventive medicine is becoming a distinct specialty and that these physicians shall endeavor to understand more clearly the viewpoint which the public health official must assume if he is to conscientiously, scientifically, intelligently and effectively carry out his duties of health conservation along modern lines. They should come to recognize that the old order of things has changed and that the modern health officer cannot be measured by the standards of years gone by.

There still prevails the idea that the physician is qualified to serve as health officer merely by virtue of his professional education and experience; there are still occasional unfortunate instances of the use of the health officership as a haven for the aged or needy doctor; but the ranks of qualified specialists in the distinct art of preventive medicine are gaining so rapidly that there is no longer any justification for the assumption that the health officer is in any way the man who has failed in the general practice of medicine. The man who becomes a health official because he is old, because he is decrepit, because he is financially crippled or because he has failed to make good in other lines of work, will almost invariably fail to measure up to the modern standards of public service, while the attempt, once very common, to combine private practice with public health service, as illustrated

in the part-time health officer, is rapidly being abandoned as impractical and inefficient.

It is exceedingly difficult and embarrassing for the health officer to carry out the duties imposed upon him fearlessly and effectively when he is himself engaged in practice in competition with other physicians and such a health officer is likely to fail in his public obligations because the demands of his private practice may be greatest at just the time when he should devote his undivided attention to the public welfare. In fact the tragic general breaking down of local health departments during the influenza epidemic of the past fall and winter was large due to part-time health officer service and the desertion of public obligation in the interest of greatly increased private practice.

In the past, it has been difficult to attract competent and qualified health officers on account of the niggardly compensation accorded them; but the awakening influence of the war and the increasing popular interest in matters of health are gradually loosening community purse strings.

During the past decade a number of radical changes have been introduced in the practice of preventive medicine and the wisdom of these innovations has been amply proven by our experience within the past two years when the highest degree of efficiency in health promotion and disease prevention seemed essential to our successful promotion of the war. Without understanding clearly the changing attitude of governmental agencies and the conditions which have presented themselves to health officials, it is but natural that the general practitioner should have looked upon these innovations with question if not with open suspicion and yet it is interesting to note that, whenever the practicing physician has taken the time and trouble to study modern public health problems, he has almost invariably concurred in the policies which are being employed and has commended the newer developments as indicative of more efficient and more intelligent means of health control.

Prior to the war, health authorities were confronted by three great problems in disease prevention and health promotion and I regret to say that, in the majority of instances, these health officials did not rise to their opportuni-

ties until compelled to do so by war-time emergency and by overwhelming popular demand.

During the war, however, it became tragically obvious that the cost of this neglect on the part of the health officials was more than the public was willing to bear. Exemption boards and military examiners brought to light a prevalence of tuberculosis and of venereal infection that came as a serious jolt to our national pride and shocked health officials into a belated activity. On the other hand, the great prevalence of general physical debility found by exemption boards indicated the urgent need for more intelligent preventive measures in dealing with children, while the problem of repopulation of the war-stricken European nations gave to child life and child welfare a new and convincing importance.

It consequently became necessary to develop with all possible speed the machinery essential to meeting these problems and now, that the armistice is signed and the war is over, no conscientious official can step backward. He must go forward trusting in the sympathetic co-operation of an enlightened and public spirited medical profession; but at any rate he must go forward.

In meeting the problem of venereal disease, of tuberculosis and of child welfare, and to a certain extent in dealing with poliomyelitis, extensive clinical work has been imperative and this essential phase of modern preventive medicine, in certain rare instances, has been looked upon with suspicion by the medical profession.

There is no question but that public dispensaries have at times been abused; but it is none the less true that wherever public clinics have been operated and associated with broad educational campaigns, enormous public good has been done and the members of the medical profession have directly profited. Wherever there is a good tuberculosis dispensary, private physicians find more requests for physical examinations; wherever infant welfare stations are operated, doctors are in more demand for the care of the children of the well-to-do; wherever there is a good venereal disease clinic, patent medicines, quackery and counter-prescribing are discouraged and intelligent treatment is more generally sought from the medical profession. Opposition to such public health clinics almost invariably disap-

pears when the clinics are once fairly established.

It is fortunate that these health activities are of direct benefit to the medical profession because they are absolutely essential to successful attack on the most vital of health problems; but if they were not profitable they would still have to go on and they would be supported by the higher class of the medical profession. A more enlightened public appreciates the need for them and insistently demands them and we are now coming more and more to realize that general public welfare must be promoted regardless of individual interest.

In this connection, however, I want to be distinctly understood as being opposed to the abuse of public dispensaries and of being convinced that medical service for clinics and dispensaries should not be gratuitously rendered. With the increasing cost of living, practically everything has advanced except professional compensation and there is no more reason why the public should expect free service from medical men than it should expect uncompensated service of nurses, free rent or free commodities from the merchant.

But the awakening of the fact that the interest of the public is paramount to the interest of the individual patient has come. Public sentiment condemns the physician who endangers the lives of the community in failing to report communicable disease as a means of currying favor with his individual patrons. The intelligent public regards the reporting of contagious disease as it does the reporting of a fire—as the means of preventing general conflagration—and the public believe that, in accepting the special privilege of medical licensure, the doctor obligates himself to aid in conserving human life.

Regardless of our own feeling about it, the public is coming to believe that the doctor does not completely earn his obstetrical fee until he has taken precautions to prevent ophthalmia neonatorum and has reported the birth to the proper public official.

The greatest strides in public health have come through the broader education of the people as a whole and I foresee, in the not very distant future, a public sentiment so established that the physician who ignores health laws and public obligations will lose caste and patronage

thereby and that greater and more material recognition will be accorded the doctor who does his full duty to the public. In that day, I foresee better provision for the medical profession—good laboratory facilities maintained at public expense in every community; general suppression of quacks and charlatans; the discouragement of counter-prescribing and the payment of fees and emoluments commensurate with the actual value of health and life so far as these can be measured in dollars and cents.

The awakening of that public sentiment and the appreciation of the importance of public health was observed in the far-seeing vision of Governor Frank O. Lowden, of Illinois, when he drafted the now famous Civil Administrative Code of the State. Under the provisions of that epoch-making instrument, several hundred state boards, commissions and bureaus were combined into nine departments and one of these nine major divisions was devoted solely to the promotion of health and prevention of disease. The department was relieved of such functions as examination and licensure of physicians and was created a *simon-pure* health department. I regret to see that Idaho, the first of several states which will eventually adopt Governor Lowden's plan of state government, did not accord to health the place to which Governor Lowden felt it is entitled. However, with the present trend of public sentiment, all states will give more and more attention to the health of their people and the health officers will become more and more essential to the successful conduct of the community.

As I see it, this progress will now be rapid. There have come back from the war hundreds of physicians who have had rigid schooling in health conservation, many of whom will prefer continued public service to the resumption of private practice, and there have come back to all parts of the country hundreds of thousands of young men—the men of affairs of the present and the coming generation—who have acquired a new idea of the importance of health and who have been schooled in cheerful and ready acquiescence in health regulation. The new specialty of preventive medicine is coming into its own under remarkable conditions and under most auspicious circumstances.

THE PHYSICIAN AS AN INVESTOR.

G. FRANK LYDSTON, M. D.,

CHICAGO

From the amount of literature bearing upon fake schemes for investment with which the desk of the physician is flooded it is evident that the wily faker puts a very low estimate upon the intelligence of the profession. That this estimate is deserved, most of us who are in a position to know scarcely would deny. The faker starts after the young physician as soon as his sign is swung to the breeze and pursues him throughout his after life with enthusiasm proportionate to the doctor's real or alleged financial success. It would seem that the wily schemer holds the view that the readiness with which the physician can be induced to part with his hard-earned dollars is inversely to the ease with which he acquired them. The attitude of the physician regarding such little moneys as he may accumulate often reminds one of the story of the Irishman, who, by dint of seventeen years' hard work in carrying the hod, had accumulated something like \$400.00. He was induced to go to the races one day and very promptly lost every dollar he had. One of his Irish compatriots was condoling with him upon his loss, whereupon he retorted: "It's all right, Moike; come aisy, aisy goes."

About the first proposition that is submitted to the young doctor is a life insurance scheme. He is induced to buy some life insurance upon the specious plea that he can pay at least a part of it, if not all, in life insurance examinations. This, he is informed, will give him a large acquaintance and a permanent position with the company. I do not know what the custom of the larger companies is at the present time, but in times past some of the most substantial life insurance organizations have been a party to schemes of this kind. Having secured the doctor's money or, in the event of the *quid pro quo* being altogether life insurance examinations, the doctor's time and skill, he is promptly dropped, the agent seeking for new fields to conquer, in the shape of other aspiring and struggling young practitioners.

Once the young physician has begun to progress, actually or theoretically, as the case may be, he begins to be besieged by men who have

easy money schemes. These schemes involve the backing of the promoters' ideas with the victim's money, and it is strange that the doctor cannot see it that way, yet he rarely does. The doctor is not quite so big a fool as he used to be, for if there were any change at all it must be in the matter of improvement—there was no room for retrogression in this respect. It therefore is necessary to make the bait a little more glittering than before, although a "fresh sucker is born every minute" into medicine. The wily one approaches us now with a scheme for planting coffee beans on the top of Popocatepetl and reaping gold dollars at the rate of 100 per cent for one. We might be a little suspicious of this, but we find upon the list of directors, perhaps occupying high offices, on the company's tempting paper one or more physicians of high standing. At the head of the subscription list will appear the name of Professor So-and-So, a distinguished physician or surgeon, who has just subscribed (?) to five or ten thousand dollars or more of the company's stock. We are instructed to call the professor up by telephone. We do so, and are assured by him that it is really a shame to sell any of that stock, as the insiders want it all, but just to oblige Dr. Easy Mark and a few others of the professor's friends, the company has consented, after considerable pressure, to let go a small amount. Of course, the distinguished professor has some stock in the company. Quite as likely as not he is one of the original promoters. The amount of outlay which he has made in the purchase of his stock might be inserted in a mosquito's eye and kept therein for an unlimited time without reddening the conjunctiva of that diminutive insect.

It is high time that the profession awoke to a realization of certain fundamental facts of finance. I will briefly present several of the most important of them:

1. The man who has a profitable mining, land or agricultural scheme to finance is not compelled to go into the office buildings of our cities or to the modest dwellings of our country practitioners and look up doctors for the purpose of inducing them to invest their hard-earned dollars. Had I a really excellent mining or other scheme to promote I think I could spend my time much more profitably among capitalists than among doctors or other professional men. The

amount of unused capital in America that is lying in wait for judicious and profitable investment is so great that even the fools should be able to understand the situation.

2. The legal rate of interest is established by our general financial and commercial conditions. This legal rate is supposed to be the safe rate, and yet our men of great wealth, when they desire to make investments, buy government bonds, the interest upon which is about half the usual legal rate of interest. They do this because they consider the bonds the only investment which is absolutely safe. This is a hint which the physician, who has a few hard-earned dollars which he is tempted to invest in wildcat schemes, would do well to remember.

3. The most important point is this, viz.: With every one per cent of interest promised above the legal rate, the danger compounds. The difference in safety between an investment which promises five or six per cent and one which it is alleged promises ten per cent is something staggering.

4. It is well to remember that most of the men who have lost money in speculation have done it while trying to back another man's game. The professional gambler thinks this a very dangerous practice. As he expresses it, "Something always goes to the 'kitty,'" whose remorseless maw will inevitably break the outsider if he plays the game long enough. The little commission in turning deals on the stock exchange or grain market is the equivalent of the amount that is paid to the "kitty" in a gambling game. This amount, trivial as it is, constitutes terrific odds against the man who is playing the game from the outside. It is the fleece of which the lamb must inevitably be shorn in time. As an illustration of the readiness with which the doctor can be induced to go into wildcat schemes and be a partner in dishonesty, a case which occurred in Chicago some years ago is a pertinent illustration.

A highly respectable, Christian gentleman, who practiced medicine incidentally and posed as a moral educator generally, made complaint against certain racetrack gamblers, alleging that they had swindled him out of five thousand dollars. The swindling was conducted as follows: The doctor was informed that the gamblers had a sure thing on the races. This

sure thing consisted in tapping the wires over which returns were made to the various pool rooms of the city. Private and preliminary information as to the results of the races was thus to be obtained in ample time to enable the co-workers in the scheme to place bets. Of course, the doctor was swindled. There was no wire tapping done. He was shown a room in which fake telegraphic instruments had been installed and gave up his money like the little lamb that he was. The moral of which is that it is better to be plucked as a lamb and done with it, than to form a co-partnership with wolves for the purpose of shearing other lambs. There should be honesty among lambs as well as among thieves.

It is high time the physician should regard the individual who enters his office with a specious scheme for investments as being on the average worthy of the same respect and treatment that would be accorded a pickpocket. He should be refused an audience primarily, and if he succeeds in gaining an audience he should be treated with the same degree and kind of consideration that he deserves.

One of the most important questions that confronts the fairly successful physician is how to invest his savings. Inexperienced as he is in matters of business and finance, the matter of investment is to him usually a very formidable problem. Even the occasional physician who has had a business experience or possesses a fairly good knowledge of business is likely to be in a quandary as to what to do with his savings, because of the fact that he is so preoccupied with his profession that he has little time or opportunity to seek profitable or safe investments. Whatever the cause may be, and I think the foregoing is the satisfactory explanation, it is a trite observation that the physician has very little wisdom or skill in the direction of finance. He is as unfortunate in the disposition of such moneys as he may accumulate as he is in the collection of his just dues.

Real estate is usually considered the most conservative of all investments. The physician who knows this general opinion is likely to invest in real estate holdings after very little study of the situation and the locality in which he invests. In my opinion, the proposition that real estate is the most conservative form of investment for individuals who are not engaged in real estate

traffic is very fallacious and open at least to serious consideration. The individual who has an accurate knowledge of real estate values in various localities and the time and talent necessary to make quick turns of his holdings is hardly a fair criterion for the guidance of the physician whose facilities for the buying and selling of real estate are confessedly meager.

The purchase of unimproved real estate is a very hazardous undertaking for the average doctor. Property that can be bought in locations in which a speedy rise in value is to be expected is usually snapped up by professional speculators and the outsider is rarely able to get into the market before the prospective increase in valuation has been largely discounted. The prospective increase in value having been discounted and the provisions having been taken by the men who went in upon the ground floor, subsequent investors are usually faced with a choice between selling at a sacrifice or holding for a prolonged period for a rise in value. It is a question which of these two horns of the dilemma is the worse. A small present loss is often insignificant as compared with immense additional cost incidental to holding unimproved property for a few years. Taxes, improvements and the loss of interest on the money invested compound the cost of the property very rapidly. This increased cost of real estate holdings more than keeps pace with a few legitimate increases in valuation. I have had the experience of holding excellent residence property for a period of ten years, and have found that, although the property had doubled in value, it had really cost more at the end of the period during which it was doubling than the increased valuation.

In buying unimproved property the investor would do well to purchase corners in eligible localities, and, if possible, along section lines in the case of city property. One of the greatest dangers in the buying of vacant property is the chance of inferior improvements or buildings, used for disreputable purposes, being erected in the near neighborhood. Inside property adjoining corners is especially dangerous in this respect. I have had very disagreeable experiences in this direction.

If the physician desires to buy property for investment he should by all means buy improved property, preferably that which is used or is

likely to be used for business purposes. He should be very cautious in buying new buildings, for the possible profits are pretty thoroughly squeezed out by the builder in the process of sale. It is essential in buying a piece of property to study the character of the surrounding improvements and of their occupants. It is also essential in estimating the value of property to quietly make careful inquiries as to the values of surrounding property. Having ascertained the values of the locality in general, this prospective buyer should make confidential inquiry of some reputable loan broker as to the amount of money he would be willing to lend upon the property under consideration. Figuring this as 50 per cent of the valuation of the property and taking into consideration the yearly rentals and expenses of the building it is possible for the prospective investor to form a fair estimate of values.

When dealing with the real estate agent the prospective investor should discount all statements relative to the income and expense account of the building. So far as the income is concerned, it must be remembered that leases are very often "padded;" for example, tenants are given six months' rent free in consideration of having a lease at a high rental for the succeeding year, or rebates are given monthly. Certain builders and real estate speculators make a business of this sort of thing. It is safe to add at least one-third to the expense account of a building as estimated by the builder. It is also wise to discount from twenty to thirty per cent the estimate of gross income. This discount is justified by the deadbeats and suddenly impoverished among the tenants, and vacancies.

The most dangerous form of investment is residence property. This brings up the question of the physician owning his own home. It is a noteworthy fact that many of our shrewd business men do not own their own homes, or at least do not purchase homes until well along upon the tide of success. When they do invest they take very good care that the shrinkage of values has already occurred at the expense of the original owner. It is well known that upon one of our fashionable avenues in Chicago the man who is ambitious to own a \$100,000 residence can purchase one of this kind for about half the original cost. The proportionate shrinkage is not so great in residences of a more modest type; still it is

sufficient to warn the home-buyer that he would best have a care in making his investment. It is a safe proposition that the man who builds a residence worth eighteen to twenty-five thousand dollars has lost twenty per cent of its cost the day he moves into his new home. There is such a wide variation in tastes among people who can afford residences of this description that the original owner is very fortunate if he can find someone whose tastes are so similar to his own that he is willing to reimburse the original owner for his outlay in the purchase of a residence.

In a general way, the physician should remember that the equities of new buildings, whether residence, apartment or business, are tremendously swelled by the builders or speculators, who submit them to him for purchase. In many instances, by a combination of a dishonest loan broker and a wily real estate speculator or builder the alleged equity is on paper only, the loan fully covering the original cost of both land and building. The chances for shrinkage in values here, in the hands of the purchaser, are only too obvious.

In passing, it might be well to bear in mind the maxim of the real estate shark, "A dead one always can be sold to either a doctor or a widow."

To refer again to the question of the physician owning his own home. I believe it is better, in general, for the physician to rent a piece of residence property upon a long lease for at least the first ten years of his practice, save in localities where the mere ownership of a residence counts, as in smaller cities or towns. The ownership of a home cuts very little figure with the specialist in a large city, most of whose patients know little and care less of the location of the physician's residence and are even ignorant of the locality in which it is situated.

One of the chief objections to the early purchase of a home is that as the family and demands of the family of the physician increase the choice has to be made between discomfort and moving into more commodious quarters. The sale of the original home is nearly always made at considerable loss, and the expense of a new and more pretentious establishment is generally such as to make it a burden upon the physician. It should be remarked in passing that the physician who rents may, without losing caste, live in a modest dwelling. When he builds or buys his

own residence, however, he feels that he is expected by his clientele and neighbors to make a more pretentious appearance than before. This is one of the varieties of social blackmail of which the physician is a victim.

The best form of real estate investment for the physician is first mortgages or first mortgage bonds. Great care should be taken to deal only with reliable mortgage bankers and to carefully inspect the property upon which the mortgage rests. When the loan has been made by conservative parties the possible shrinkage in real estate values already has been discounted, as only fifty to sixty per cent ever will be loaned by judicious loan men. The steady collection of interest and the compounding of moneys thereby obtained is a much safer and more profitable investment on the average than buying real estate outright. The bother, worry and expense of handling a property, whether improved or unimproved, is assumed by the owner and not by the mortgagee. The latter has decidedly the best of the bargain.

Next to first mortgages, reliable bonds are the best investment. Of these the government bond is the type and the safest of all. The interest, however, on the government bonds is so small that it is a very small item save with very large investors. Good railroad and municipal bonds, and, in a few instances, corporation bonds come next in order. The financial condition of the municipality or corporation issuing the bonds should be looked into very carefully before purchase is made.

So far as stocks as an investment are concerned, and despite the fact that there are stocks upon the market which are apparently sound and profitable, the next advice is that given by Artemus Ward on the question of marriage: "Don't." The small stockholder in every stock company or corporation is at the mercy of the big fellows, and those who have enjoyed basking in the smiles of the big ones in corporations will certify that those smiles are deadly for all who are not within the sacred inner circle of manipulation. There are very few large stock corporations in the United States that have not been watered to the point of pernicious financial anemia.

Oil stocks now are the most popular means of prying the doctor loose from his hard-earned money. Caveat emptor.

In writing this paper I have been actuated solely by the desire to see every doctor prosperous and assured of declining years unharassed by financial worries. Incidentally I desire to see him profit by my own mistakes.

PHYSICIANS' FEES.*

C. A. BUSWELL, M. D., F. A. C. S.,

CHICAGO.

In giving a short discourse on the above subject, as is usual with most writers, I find it necessary to go back to our old friend, "Webster's Dictionary," for definition, which is as follows: "A reward or compensation for services; recompense, either given voluntarily or established by law and claimed by right, particularly a reward for the performance of professional services, as physician's fees, a clergyman's fee, also a class of fixed dues for the performance of official acts, as consular fees, notarial fees."

The part of this definition most applicable to our profession is "a reward for the performance of professional services." Now the question before us tonight is: "What should be this reward or compensation?" As it has been the custom for the physician to make this charge, I will try and bring before you some points which should be considered in making these charges. It is not alone necessary for us to live to maintain our standing in the profession, but keep up with progression, it is not only intended that we should live but that our families should live, it is not only intended that we should keep up our studies but that we should be able to educate our children and prepare them for the work to come.

There is always an element of risk in taking the responsibility and care of the sick and injured; if by chance an accident should occur we would be held responsible and our reputation or our pocketbook would suffer.

If we were handling a piece of property as an investment we would first note its original cost; then we would endeavor to obtain an income sufficient to compensate us, first (a) interest on the investment; (b) depreciation in valuation; (c) current expenses, including taxes, coal, labor, insurance, etc. At the end of time for the life of this building enough should be accumu-

lated to not only compensate the investment, but to compensate us for our labor and responsibility of this investment.

Now the same is true with the physician. When he decides to make a physician of himself his first several years he uses in making this investment. He not only invests the cost of his education, *per se*, but he invests his labor as well, and after he has completed this investment he is able to hang out his shingle and commence practice. This investment, like every legitimate enterprise, deserves a dividend in direct proportion to the amount invested. The better preparation a doctor has for his servitude and the more money invested legitimately in his preparation, the greater should be his compensation or the greater should be his return on the investment.

In order to present this as a mathematical question, I have endeavored on the following chart to itemize the first cost of a doctor:

Beginning with High School we estimate for convenience the labor of the boy to be worth \$50.00 a month and expense of "finding" him \$50.00 a month. Therefore, he will invest in labor for twelve months \$600.00 and general expense for eight months school, \$400.00, amounting to \$1,000.00. Allowing \$1,000.00 for investment and compound interest on the same, at the end of four years, when he has completed his High School course, he will have invested approximately \$4,372.62.

In his six years of college course, which I understand is a combined scientific and medical course, giving him his B. S. and M. D. degrees, we will estimate this cost of labor for twelve months at \$100.00 a month, amounting to \$1,200, and the yearly expense in college \$1,000, which amounts to \$2,200.00. Then the previous investment in High School and the expense in college for six years, with interest compounded, will amount to \$21,790.53. As hospital interne we will estimate his labor for twelve months, \$100.00 a month, amounting to \$1,200.00, incidental expense \$25.00 a month or \$300.00 a year. Therefore, we add to the above expenses \$1,500.00 a year plus the interest compounded for the period of one and one-half years, the usual term of internship, which will then bring our investment up to a total of \$26,216.82. Thus we are able to estimate the original cost of a doctor in dollars and cents. Add to this amount \$1,000.00

*Read before the Chicago Medical Society, North Shore Branch, May 6, 1919.

for office equipment, you will then have \$27,216.82, as the total capital invested.

Now our doctor is ready for work. It is estimated in one of our leading journals that the life of a doctor in this profession is about fifteen years. Granting this is true and taking one-fifteenth of the amount above we have \$1,814.45 as the annual depreciation on this investment. Let us add to this interest on the principal for one year, which amounts to \$1,573.00; salary for twelve months at \$300.00 a month, \$3,600.00, totaling \$6,987.45, which should be the income for the first year of practice. Again let us draw another illustration, taking our investment, \$27,216.82, at 6 per cent interest for fifteen years, amounts to \$50,811.81. Labor at \$3,600.00 a year for fifteen years is \$54,000.00. Add this to the amount of our investment, which totals \$104,811.81, which is the amount that the physician should have at the end of fifteen years of practice. This ought to be "good food for thought," for how many doctors have \$100,000.00 at the end of fifteen years of practice?

Now what is the real situation? Most doctors are satisfied with a living wage as the carpenter and other mechanics. They forget that they have an investment to look after. Doctors as a rule are "poor business men." This is not their fault; it is the fault of their training. They usually come from families who are not used to figuring and making investments. Their education and training is along the professional line and not commercial. This commercial training has been sadly neglected and I believe the time will soon come when a business training will be required by our medical colleges. Our medical societies should have this subject up for discussion more frequently.

Referring again to the figures of the above example, it takes a yearly income of about \$7,000.00 before we pay expenses. How long will it take a doctor to reach this point? I am unable to give correct data on this, but from my associates and friends I learn that it takes about seven years to reach this point and many doctors never have and never will reach it. The sooner this point can be reached the more liable you are to reach the desired goal.

Now the question comes up, who is to make these fees? Why, the physician himself. He is the only man living who knows what his services are worth. If he wishes only to give a dollar's

worth of service to a patient at a house visit, that is all he should charge for. But if he is using his original investment, his medically trained mind, his energies, his skill, he should be compensated accordingly.

How much capital have *you* invested? How much preparation have you made? What is the depreciation of stock in trade? With these questions above we must not lose sight of the fact that we must make a demand for our services.

Do what you are able to do better than any one else, if you can. The labor union's slogan today is, "Less work and more pay." Our slogan should be, "Better work and pay in proportion." I am sure with this consideration you will charge the proper compensation.

Remember Ruskin said: "The best grace before meat is the consciousness that you have justly earned your dinner."

COST OF FOUR YEARS OF HIGH SCHOOL

First Year.		
Labor—12 mos. at \$50.00.....	\$ 600.00	
Expenses—8 mos. at \$50.00.....	400.00	\$1,000.00
Second year, with interest.....		\$2,060.00
Third Year, with interest.....		3,183.60
Fourth Year, with interest.....		4,372.62

SIX YEARS OF COLLEGE

First Year.		
Labor	\$1,200.00	
Expenses	\$1,000.00	\$6,834.98
Second Year		9,545.08
Third Year		12,320.78
Fourth Year		15,360.03
Fifth Year		18,481.63
Sixth Year		21,790.53

INTERNESHIP. 18 MOS. IN HOSPITAL

First Year.		
Labor—12 mos. at 100.00.....	\$1,200.00	
Expenses—12 mos. at \$25.00.....	800.00	\$24,627.98
One-half Year		26,216.82
Office		1,000.00
		\$27,216.82

INCOME A DOCTOR SHOULD HAVE FIRST YEAR

Depreciation of investment.....	\$ 1,814.45
Interest at 6%—1 yr. on investment.....	1,573.00
Labor at \$300 a month for 12 months.....	3,600.00

Total 6,987.45

WHAT A PHYSICIAN SHOULD HAVE AT END OF 15 YEARS

Depreciation of investment.....	\$ 1,814.45
Interest at 6%—1 yr. on investment.....	1,573.00

Total \$104,811.81

DISCUSSION

ABSTRACT

Dr. CASSIUS C. ROGERS considered the paper the most valuable presented to a medical society this year. He thought physicians should be business men and that the idea that the doctor is living to serve humanity—the old adage "The poor are your best patients, for God is their paymaster," is wrong. The poor are *not* our best patients. They take more time, more energy, and they are the ones that start the malpractice suits when they don't get the service they think they need. The man who pays a good round

fee knows you have something to fight him with and he does not attempt to bluff you.

What should a man charge? A man should be worth his hire, should charge what he is worth. If he is not worth anything as a physician he should not charge anything. If he is not worth anything he should get out of the medical profession and get into something he is worth something in.

The only way to make them respect us is to charge them and then see that you get your fee. Don't go to the collection lawyer; they sell out. A fellow owes a doctor \$300.00 and he goes to the lawyer and tells him to fix it up with the doctor for fifty per cent. and he'll give him fifty per cent, for doing it. The lawyer does that and then charges the doctor fifty per cent. for collecting it and gets fifty from the other fellow, and has seventy-five and the doctor twenty-five. The lawyer is not dishonest—he is a business man and the doctor is a fool.

He admitted that the surgeon can do a little differently, that he collects ninety-eight per cent. of what he earns—by collecting it before operating.

Every time you operate on somebody for nothing you are putting yourself under obligations to them, not them to you.

DR. MARTIN M. RITTER emphasized the necessity of *organization and cooperation*. We are organized to come together once a month up here and once a week down town, but there is a lack of cooperation which makes organization absolutely impossible. To cite one instance:

Four years ago a few men in the society advocated that a physician should be able to treat his patients suffering with contagious disease. If there is a case of scarlet fever or diphtheria in a good family and the physician packs them off to be quarantined and sent to the hospital his income has to be cut off. The patient has to be treated by the city physician at the contagious hospital or the county hospital. The family has not the opportunity to provide their nurses, but has to depend on the hospital—which was one of the motives of the movement. I talked to Health Commissioner Young and he said "I have lived for a good many years and the medical profession does not interest me a bit"—that was when the Municipal Contagious Hospital was going to be built—"I would not consider this and I will not meet with you." How many of you remember this and took enough interest to come to the meetings to help us put this thing through that would be money in your pockets? Then how can you complain that you have no interest on your investment? You have never taken any interest in your financial welfare.

How many men are writing today to the Legislature—you have been asked to write to the Congressmen and State Senators about various bills—the nursing bill, which is giving hospitals the greatest concern—and I venture to say that not ten of you have done it! How can we expect better conditions when we don't work together? There is only one solution of this and that is based on sincere and ear-

nest cooperation, and until we have that and form an organization we will never be able to do anything. That is the keynote of your success, of raising your fees and collecting your money, and making yourselves more independent than you are today.

DR. GEORGE N. PRATT thought that on the question of fees, cooperation and organization there is no chance for discussion. It is self-evident. Everybody in the profession knows that every member of it loses a great deal of money that he should not lose—he is entitled to it. Every member knows that our methods are not those of any other organization. They are not business methods, and yet there is no attempt made to correct them. He related a personal experience in illustration. He sent an account to an attorney for collection which, after the lapse of considerable time was returned with a note that he had the accounts of eight other doctors for the same individual. If such a thing is possible in any profession there is something radically wrong. There is no other group of men and no other profession where such a thing is possible. You go and buy from any house in any land and you have to establish credit before you get service. There should be a plan for finding out whether the patient can pay for his services. We have a Chicago Medical Society and if the various members would take the trouble to compile from their books a list of the people who do not pay their bills, not the charity patients, but the individual who pays his bills at Marshall Field's and every other place but does not pay his doctor, it would be comparatively easy to compile a card system showing these medical dead beats, and it would be very simple for Doctor Smith or Jones to get such information about a patient that would guard him against such patients. They get credit and should pay and such patients should be made to accept either direct charity or pay their doctors.

He advocated an understanding that work supplied one physician by another should receive a definite compensation. In other words, if he sent a case to any specialist it should be understood that the specialist would pay him a certain amount. Then he would pick out the one whom he thought could do the best work, regardless of the fee.

DR. ARTHUR H. WEIS noted that in debates on this subject there are always three outstanding propositions, unity, cooperation and organization. Some speak of blacklisting the delinquent debtors. In his opinion all these are very good, but we will never get anywhere without introducing some of those methods which have achieved results and have done things in other organizations. In the labor unions many do not approve of what the chiefs are doing, but still the labor unions have led to the great betterment of the labor conditions in this and other countries. We need a little autocracy. We see among our great bankers of Wall Street that many a banker is forced to do things because their leaders wish it. He is forced to invest many thousands of dollars because he is so commanded. We can never arrive anywhere unless we delegate power to our leaders and they make

laws by which we must abide, unless we wish to leave the organization. If such laws are passed and every member must abide by them, and every member must do as we see manufacturers and labor unions and every other organization, obey these regulations that are for their interests, if these are strictly obeyed—if for each member of the medical society there is a stringent law that touches upon his business in living just the same as in manufacturing or banking, no one will ever dare trespass against such laws as his organization has founded. If we make this a rule we can achieve great results and incidentally help the public we are trying to serve. If we have no time to study and do the research work that investigations demand we cannot give the patients the best that is in us. He believes our only salvation is to delegate greater powers to the officers of our different organizations and let them adopt the tactics that are dominant in every other organization and make them obtain here. Other organizations have shown that they can make things unpleasant for their members if they do not abide by their regulations. The public will be with us. We should speak of these things and preach harmony and cooperation, for it is the only way to carry this through, and delegate some little authority to those whom we trust sufficiently to elect them to be our superior officers.

THE OPHTHALMOLOGIST AND OTOLOGIST, RETROSPECTIVELY AND PROSPECTIVELY CONSIDERED*

J. SHELDON CLARK, M. D.,
FREEPORT, ILLINOIS.

We of today are living and profiting very largely through the efforts of our ancestors of bygone times. Seldom do we stop and consider the debt of gratitude we owe those who have gone before us. We adopt their ideas, accept their formulae and go merrily on our way. All the cumulative results are ours for the asking.

So it is in all lines of endeavor. The savants are drawn upon for knowledge and inspiration in all lines of activity. Perhaps in no field of endeavor is this more generally done than in the practice of medicine. The fathers in medicine and indeed down almost to our present day were held in high repute by their clientele. In most communities the doctor was the man, next to the minister, most often consulted. In a degree we medical men of today have lost somewhat that place of trust and confidence held by the fathers gone before, and yet from a scientific viewpoint we surely have gained. In matters

of dress and general appearance one could not very well tell a medical man from the ordinary business man.

In so far as medicine as an art is supplanted by medicine as a science, just so much better will the position of the physician be. We must be ever ready to take up the cudgel for the profession as a whole. We need not consider that we are a close fraternity and that all the deeds of our brothers must be condoned, but in so far as we are able we should stand up for our fellows and give the public to understand that we are the rightful dispensers of all that is good and for the best when it comes to matters pertaining to the health of the public and its well being.

Co-ordination of effort may and should prove as effective in medical as in business affairs. Men in corporate affairs talk much of late regarding teamwork. Individual effort is good, but is not always a consistent ground gainer. The physician who would do the best for his clientele will see to it that his examinations shall not be made casually, but with an exact thoroughness. Feeling of the pulse and inspection of the tongue may tell a great deal, but too often it allows serious conditions to go undetected.

In recent years the practice of medicine in the larger centers has taken on a new aspect. Men have limited their work to certain fields. This has led to greater efficiency. With proper preliminary training, experience and study, a man who then devotes an additional period of from two to three years along certain lines must of necessity be better prepared for such work as he may elect to follow. Otherwise, he is in effect a tyro in what he attempts.

This paper was prepared with the view of placing before you some of the situations in which an oculist and aurist may be of assistance in the study and treatment of cases at hand. If, in its preparation I have given thought to anything that will cause you to think a little more keenly along certain lines of medical practice, then will its purpose not have been in vain.

Since the war in Europe has for the time demoralized the post-graduate teaching established in many of the European capitals, and most systematically carried on until 1914 in Vienna, under the guidance of the American Medical Association of Vienna, it behooves the leaders in the profession to quickly assume the responsibility

*Read before the Tri-State District Medical Society at Rockford, Ill., September, 1919.

ties that now present themselves for post-graduate work in this country of a sort that will pay the man who wishes to take it up.

We learn from Munson in his review, that 75 per cent of the men in the medical corps claiming to be specialists in the eye and ear, were only superficially prepared for their work. When such a state exists as he describes then should there be serious thought given to this matter of preparation. No longer should our confreres hold forth as able to turn out finished specialists by having physicians attend an eight weeks cramming course of lectures and demonstrations.

As in general surgery, the ideal preparation is as house surgeon for a term of one year or longer, followed by an apprenticeship under an experienced surgeon. Such preparation can be had and it should be demanded. The demand will cause our universities and their hospitals to so provide for this post-graduate work.

Let us consider some of the diseases that peculiarly interest you as general physicians and are, too, of great import from an economic viewpoint.

I speak of the economic side of the question for a reason that appeals strongly to me. One may treat a patient for a diseased condition of the eye or the ear. So far as the life of the patient is concerned, there may not be much, if any danger, and yet the sight in the eye or the hearing of the ear may be forever lost. We hear much concerning the conservation of vision, and I fear too little regarding the conservation of hearing. Those who have lost their hearing are of all men most miserable. Many positions in the commercial world are closed to them. Even a man who is moderately deaf is not wanted in many positions. I would, therefore, urge you to conserve for your patients their hearing to the utmost degree. Do not neglect cases of acute otitis media in children or in adults, as well. It is from this cause that most of the cases of deafness arise. Be alert, inspect the drum membranes frequently, and if you cannot do this, call in an otologist who can make a proper inspection and do a paracentesis if one is indicated. Thus will a deal of deafness be prevented.

The day is past and gone for the use of laudanum drops for Johnnie's aching ear. Grandma's hot onion will also have to remain in utter disrepute, for Johnnie will be a man some day and when that day comes he must

have both his ears attuned to what is going on about him. Proper treatment of acute otitis media will, in most instances, be successful, and when done will cause operations for the relief of mastoid abscess to be few and far between. Then, too, there will not be that long host of folks going about with chronic suppurative ears, a burden and a menace their whole life through.

In the past much of the blindness was caused through neglect of cases of gonococcal infection at birth. The oculist rejoices with the community that knows not the germ of gonorrhea, but how much greater his joy when he meets an obstetrician who faithfully carries his 1 per cent silver nitrate as an essential part of his obstetrical equipment, and further who makes use of it as a means of prophylaxis. We may legislate for the compulsory prophylaxis against ophthalmia neonatorum, build asylums for the blind and do all of that and yet when it is all said and done, it rests with the general practitioner whether or not ophthalmia neonatorum shall be wiped out.

The appeal of a beautiful child with sightless eyes that should be able to behold the beauties of nature, will do more toward preventing blindness than the great arm of the law. Let us, therefore, will it that we shall not have another case due to our neglect. Therefore, do not neglect the potent and harmless 1 per cent silver nitrate solution.

We must learn that the early institution of proper treatment for diseased conditions in the eye yield proportionate good results in most cases and that neglect jeopardizes the possibility for good results. Simple things like a foreign body in the eye must not be taken too lightly. I have known of an eye being lost after the removal of a cinder from it, and which was due to the patient using a soiled handkerchief that carried the germs of the pneumococcus. It took but two days for the cornea in this case to melt away like snow in a June sun. We must be clean about such work, as well as in other conditions which are seemingly of so much greater importance.

That the eye is judged too lightly by many in the profession is well illustrated by the manner in which the surgical nurse looks upon the eye man. A few days ago I was doing some tonsillectomies, these were followed by an advance-

ment and partial tenotomy for squint. The surgical nurse asked, "The next is just an eye case, is it not, doctor?"

Be on your guard when it comes to cases of squint. Parents will bring their children to you for advice. Do not simply tell them to let the child alone, that it will outgrow the condition, and so on. You must know that the fusion center develops early in child life and is fully developed at three years of age and before; and that it is during this time that much can be done to right these cases of squint. Send the child to an oculist. A friend of mine has established for himself the dictum that "a child is old enough to wear glasses as soon as he manifests a squint." Proper bandaging, the use of atropin in the fixing eye and the refraction of the patient with the use of proper glasses will be the means of establishing binocular vision in quite a few cases of squint. If they have passed to the sixth or seventh year, then operation will have to be done, and this had better be done at 12 years or whenever you can depend upon the co-operation of the child at the time of operation. The successful advancement and tenotomy can only be done under local anesthesia.

A word regarding the use and the abuse of atropin. That it has legitimate use there is no denying. Do not let the old bug-a-boo of the optician stand in your way. Be free to exhibit it whenever it is indicated. Be just as chary about its use when it is not indicated.

In all refractive work in the young, it is well to use some mydriatic to properly control the ciliary muscle. One should always be sure of his diagnosis before its use. Just because an eye is red and in a state of inflammation is not proof that the pupil needs dilation. Remember that glaucoma may be produced by just that error, and bear in mind the oldtime differentiation between iritis, simple conjunctivitis and acute inflammatory glaucoma.

Remember that the fundus can give us a world of information in many of the chronic diseases and that this information can be had in the eye before it is to be had in other parts of the body. Contractions of the field in glaucoma, brain tumor, papillary edema in intra-cranial pressure, exudates about the nerve head, and that hemorrhages into the retina can pretty closely tell us the time of exit in chronic interstitial nephritis,

etc. Let us make more use of the ophthalmoscope or have our cases of fundal trouble read by those who do use this instrument well and can interpret what they see or should see.

For some years we have been interested in an ever-increasing way in the question and study of focal infections and their relations to systemic disease. To trace the causal factor in every instance has of course been difficult and at times almost impossible, excepting for the fact that we have experienced such remarkable change in conditions that had previously resisted every other form of treatment, and it is continuously being clinically proven that focal infection plays a great role in the cause of disease in distant organs.

It is believed that septic foci in the body cause harm in either of two ways: 1. From the toxins absorbed from the growing bacteria within the body. 2. From the actual invasion of the blood stream by the bacteria themselves, thereby easily setting up metastatic infection in distant parts. The first is, in the minds of many, the more probable manner in which damage is done by reason of focal infection. True they are as a rule rather low grade types of infection, but they are present at all times, and it takes but a slight lowering of the bodily resistance to enable these infections to make themselves manifest in the multitudinous forms of endocarditis, nephritis, articular infections, muscular pains and other systemic symptoms to one of which I would particularly call to your attention and that is a mild grade of uveitis. This may take the form of a mild episcleritis on through the various grades of inflammation to the highly fulminant type of plastic iritis with all its damaging complications, highly destructive to vision.

The work of Drs. E. C. Rosenow, Frank Billings and others, has given us a true insight into many otherwise hidden aspects of focal infection and causes us to have a clearer vision as to the proper means of prevention and cure. Irons, E. V. L. Brown and Nadler have proven that an iritis can be produced in the eye of a rabbit by intravenous injections of cultures of streptococci that have been obtained from patients suffering with eye infection.

In our practice we are again and again called upon to assist in determining the causal part played by the mouth, the nose and the accessory sinuses as the seat of focal infection. We do well

to start with the teeth and make as systematic a survey as can be made of them for the location of septic pus reservoirs. There are many instances of mouths which have been over-dentalized. There are few bridges of two or more teeth but should be condemned. Golden crowns usually shut out the light and cover over the heads of teeth that are rotten to the core.

The medical profession is indebted to the dental profession for having one in their midst so bold as to make the statement that 90 per cent of all apical infections yield cultures of the streptococcus viridans, which when grown and injected into the veins of rabbits will produce arthritis, endocarditis, osteitis, myositis, iritis, nephritis or inflammation in any part of the body. Up to a very recent time the dentists were laggards in this matter. Far too few of the dental profession are today sufficiently awake to this matter of focal infection as it pertains to the teeth. The dentist, it has been averred, has been too much taken up with the things referable to the mechanics of his profession and thereby entailed the serious damage of vital organs in his zeal to produce a dental cosmetic repair only. This was largely due to faulty teaching. Pathology was too often forgotten in the mad rush for the development of the mechanics of the science and art of dentistry. Now, thanks to wise leaders in the dental and the medical profession, the pendulum has swung and we are beginning to get the coveted co-operation that has been so slow to obtain. However, it will not be complete for another generation.

There must be a closer relation existing between the medical profession and the dental profession. As an instance to the point: The writer has upon many occasions had the temerity to insist upon dental alteration where it has been averred that everything was normal and there was no cause for condemnation of "perfectly good teeth."

The x-ray is a most valuable adjunct in the diagnosis of infections about the teeth. That it at times gives excellent evidence and again in an equally bad condition tells us nothing, is, of course, regrettable. First we must more and more improve on our ability in the reading of radiograms. We must know what we are looking at, make accurate interpretations from what we have before us. One should remember that the history

the patient gives is an aid to us. Previous gum boils are not to be forgotten; tenderness of the teeth or an uneasy feeling at times, especially when suffering from a cold or physically exhausted. Pressure will also tell us much as to the state of the alveolus, also a change in the color of the gums over the regions of the apices of the teeth suspected and infected.

A very great deal has been written in the past upon the relation that Waldeyer's ring, the faucial and lingual tonsils and the adenoid tissue bears to septic infection. That it is one of the greatest harbors for the peaceful habitation of germs, the enormous literature upon the subject fully attests. However many a useless tonsillectomy, I dare say, has been performed, but their number is small when we take into account the number that should be and are not performed. All sorts of plans are being made for the conservation of the tonsil, ranging all the way from the spray and the cautery down the line of tonsillar attack. It is my opinion that if you want to do something and at the same time don't want to harm anything or anybody, then just cauterize, clean out pockets in the tonsils, scarify, circumscribe or do anything else short of removal, then it is, I say, that you are all ready to go over it again the next week, the next month, and so on. But, however, if you really want to do something for somebody, then why not get busy and enucleate the tonsil in your own sweet way, but when you do, then have the conscience to do this work in the way it should be done. Do not make an ordinary office treatment of it. Do not let the father or nurse hold the child in their tender embrace while you essay to remove the child's tonsils. You had better never have begun. Do it right. As a rule, make it a hospital affair. Do not tell the parents or the one to be operated that it "does not amount to anything." That you sort of throw tonsil work in along with your other general surgical work because you do not want to admit you are not a surgeon in all that that word implies! You well know that it is a full sized man's job. You general surgeons know that it is harder to do a clean tonsillectomy, leaving intact the pillars, the uvula, the post nasal space and get out without having done a pharyngotomy than it is to do many of your appendectomies. Then, knowing this, why cannot you obtain a fee commensurate

with your efforts and more nearly approximating the one you secure for an appendectomy?

I have said to make a hospital job of tonsillectomies. This should be done. If the patient is to come from a distance then the entry into the hospital should be made the evening of the day before the operation. A light supper should be given. The bowels should be opened the day before the operation. Knowledge of the clotting power of the blood should be known in a general way and if there is any reason to believe that the subject is a bleeder, then the clotting time should be ascertained by proper methods. No case should ever be attempted under general anesthesia without some such preparation. If there has not been some such preparation, then put off the operation until the next day if need be. Insufflation pneumonia and other aspiration troubles has more than once complicated what otherwise was an uneventful operation. Again while liberating the pillars one often liberates pent up masses of debris that carry a vast number of bacteria. These masses should be quickly wiped out of the fauces and not allowed to remain in the mouth. Lung abscess has been known to follow tonsillectomy and it is these particles of infected matter from about the pillars and out of the crypts of the tonsils that in my opinion is the cause of this complication.

You will pardon this academic dissertation upon the needs of preparation of the patient for tonsillectomy. I say so advisedly, for I have again and again had to delay operation where there has been no thought given beforehand as to the preparation of the patient.

There is one situation, a complication from middle ear disease, and an intracranial one, that has, during the past few years, come more and more to the front and has of course been given a secure clinical entity at the hands of many good men in the aural profession. I speak of septic sinus thrombosis. This is a subject which needs to be impressed upon the minds of the general practitioner, who indeed rarely meets such a condition, but who should nevertheless be prepared for its recognition when once he does come across a complication of ear disease known as septic sinus thrombosis. It is the general practitioner who sees the case at a time when diagnosis can most easily be made. Later the symptoms become so complex and the situation so

grave that nothing can be done except to look on and witness oncoming complexities which present themselves with a terminal infection. Left alone, it most usually means the exit of the patient.

In a given case of mastoid disease with sinus thrombosis diagnosed there should be but one consideration and that is the relief of the situation by cleaning out the infected sinus and the mastoid cells at the one operation. There are those who, in a strongly suspicious case, are wont to do the simple mastoid operation and then await further developments as to the condition of the sinus. My thought is that diagnosis should be clearly established when we first see the patient or at least before operation, if at all possible. By so doing we have a distinct gain and raise the possibilities for recovery greatly over the two step operation.

My experience covers a limited number of cases of lateral sinus thrombosis. Six in all. I will relate a few of them in a general way:

The first one I encountered when in general practice. The man, a boiler-maker, was taken suddenly ill. When first seen he had a temperature of 102 with great prostration and a history of a chill previous to the rise in temperature. The next day his temperature was normal and he felt generally better. There were continued fluctuations of temperature so much so that it was regarded as a malarial infection and examinations of the blood were made for the plasmodium malariae. It was finally learned that the man had a chronic suppuration of the ear and an aurist was called in. The simple mastoid operation was done, the chills and the fluctuations in temperature continued, secondary operation was not done and the man died in five or six days. I believe that had the sinus been opened at the time of the mastoid operation, the cause of the sepsis would have been found and its eradication at that time would have saved the life of the patient.

Most of the cases of sinus thrombosis I have seen have occurred in those suffering from an old otitis media of the suppurative order. Another case was in a young man whose family physician called me on the phone and wished that I come to the country and operate on the case for him. Inquiry revealed the fact that it was a case of suppurative otitis media that had existed for some years with acute exacerbations. The patient had, in the course of a few days, had two chills with elevation of temperature following the chills. There was another point in the diagnosis and that was that the discharge from the external auditory canal had suddenly ceased. There was dizziness and some nausea. A snap shot diagnosis of a sinus trouble was made from this telephone communication and the boy was ordered to the hospital. Opera-

tion was performed as soon as possible and the usual condition of chronic mastoid disease was found. The outer cortex of the bone was extremely hard, there being few cells, and a resultant ivory-like hardness—eburnation of the bone. The lateral sinus was uncovered and there was some debate as to whether it had better be opened. It was opened and a clotted sinus presented itself. The clot was curetted out and in doing so an extension of the curettage was made downward toward the jugular bulb and upward and backward toward the torcular. Free bleeding was had from each direction which was readily controlled with gauze packing. A preliminary ligation of the jugular had been done and this vessel was tied off at two points and no resection of the jugular was done. The patient was returned to bed with some evidence of shock. This case ran a prolonged course of convalescence but eventually recovered.

Another, a young man 25 years of age, farmer, with a history of chronic suppuration of the ear since childhood. Had recently been stung on the side of the neck by a bumble bee. He was thought to be suffering from the effects of this sting for the first two or three days of his illness and up until he became delirious. When I saw him he was in a muttering delirium, with a temperature of 102. There was mastoid tenderness, but there was no external swelling. He was brought to the hospital some 50 miles, partly overland, and was prepared for operation. There being no history of the case other than I have mentioned I did a preliminary puncture of the spinal canal and removed considerable fluid under pressure. That same night the man escaped from the hospital and was found two or three blocks away, dressed only in his night clothes. The following morning a radical operation was performed. Fluctuations in temperature with chills intervening, caused me to operate again during the next 36 hours and this time the jugular vein was ligated in its lower portion and the sinus relieved of an infected clot. Free bleeding was secured both from the distal and the proximal end of the incision in the vein.

There followed weeks of elevations of temperature with rigors and drops in the temperature curve typical of septic infection. A bed-sore developed during the first few days following the operation, there being a general feeling with the attendants that there was to be an exit. There were several occasions when the patient's condition became very alarming. He would become cyanotic, respirations slow and a generally depressed state intervene. Proper application of remedies would relieve him and he went on from day to day. Final recovery was obtained in about two months' time.

Another case was that of a child three years of age. The suppurative otitis in this case was caused by measles a month or two previous to the time I was called in. The discharge from the ear had ceased. Paracentesis was done but with no apparent relief of the symptoms. There was, however, a free discharge for a few days with some improvement in

the condition. I was called to the patient's home about midnight two or three days following the paracentesis and found that the child had had a chill, that there was now a stuporous state intervening and the temperature had risen to 104. Diagnosis of sinus thrombosis was made and the patient sent to the hospital. The simple mastoid operation was done and the lateral sinus was uncovered. The sinus was opened. There was free bleeding for a moment when it was stopped by packing with gauze. I waited five days and then removed the gauze, when I was forced to re-insert packing on account of copious bleeding. This gauze in turn was allowed to remain for a week's time.

This patient developed a metastasis in the right knee joint, there being much swelling, redness and pain, which, however, subsided in three weeks' time under treatment of immobilization, secured by a plaster cast.

In the after-care of the cases of sinus thrombosis it is quite important that there be someone on guard night and day who will be able to cope with a possible hemorrhage that may and often does occur spontaneously, either from the jugular in the neck or from the wound itself. Another complication and one not to our liking, is that of the metastases which occur in various parts of the body with results dependent upon the situation involved.

Another was a case of acute infection of the middle ear with a history of spontaneous rupture of the drum membrane, with copious discharge for about a week's time, and then almost a complete cessation of the drainage. There had been one chill followed by a rise in temperature to 105. I saw the patient ten days from the onset of the symptoms and at once had the patient removed to the hospital. A wait of two days was occasioned as there had not been sufficient time for the study of the case. A simple mastoid operation was performed, there being not a great deal of erosion of the mastoid bone. The temperature dropped somewhat and remained rather constant for the next 48 hours except for slight rises from time to time, but there were no further chills noted. There was, however, a peculiar drowsy state noted and the child would not answer ordinary questions. The mental condition was pronouncedly dulled. This condition continued, the temperature remaining 103 to 104, with some remissions, no rigors and no symptoms that would point to anything other than that of a general cerebritis. There was no secondary operation. Toward the end of a week there was some stiffness of the neck, cerebral cry and other evidence pointing to a meningitis as well as a cerebritis. There was no post mortem, but I am inclined to the belief that we had here also a case of sinus trouble.

In a review of these cases it shows that one must take into account all the various angles

of the problem; that we cannot always have the typical and classical symptoms given in the textbooks regarding this disease. The experience I have had with sinus involvement has taught me, and I believe it should teach all of us, that early operation upon the sinus, in safe hands, is what we should do and it prejudices the life of the patient but a very little should there possibly have been a mistake made as to the condition of the sinus. When the man in the street can make the diagnosis, then the time has passed when operation will be of avail. The intracranial complications of middle ear disease can manifest themselves in so many ways that one should not wait and dally about when once his diagnosis is made. In waiting, one only jeopardizes the chances for recovery and allows time for the process to extend, limiting the chances for recovery to a very small percentage. The percentage of cure is about 75 with operation.

Some of the great advances made by American surgeons has been due to their fearlessness in attacking surgical situations promptly. Time was when no operation was done upon the abdomen unless there was a 99 per cent surety that the disease was as diagnosed. Then came the exploratory operation which gave such wonderful results. Aural surgeons the country over have come to have most wonderful results in these cases of sinus thrombosis. I would not mislead by creating the impression that the operation is trivial. On the other hand, it must not only be skillfully performed, but rapidly so, thus avoiding shock and loss of blood. I would consider the results quite equal to the situation encountered in gangrenous appendicitis. Left alone, either condition is highly fatal, but when interfered with by a well-performed operation it is doing the patient a favor to the extent of raising his expectancy for life 75 per cent. Is it worth it?

DISCUSSION

DR. JOSEPH C. BECK, Chicago, agrees with the speaker that sinus thrombosis is a very important subject for the general practitioner, as the symptoms of suppurative ear diseases many times lead the doctor to think the case is complicated by pneumonia. With the initial chill, a rising temperature of 104 or 105 will give them that impression, and they wait too long or until they have other chills. Two of them are enough because it is very likely, in connection with the suppurative ear disease, whether chronic or acute,

that it is a sinus-thrombosis. The exploration of a lateral sinus is not a dangerous thing at all. In fact, it should be done in every case where one might suspect such a thing. Not only exposure of the sinus is desirable, but incision is desirable, the patient first having been prepared for a blocking off. It does not mean that the sinus will become permanently obliterated. It is simply walled off. A new wall is formed through the incision. Having opened the sinus, if there is free bleeding from both sides you know there is no thrombosis.

That portion of Dr. Clark's paper in regard to team work was also interesting to me. I have had the good fortune to be in a team for the past twenty years. It was forced upon me. There were four brothers; we got together and formed a team and we worked that way until subsequently we heard of others working that way in various parts of this country.

The team work can be overdone. There is apt to be too much detailed examination, making a patient very tired.

In the case of otitis media, the Doctor said do a paracentesis. I say you should not do a paracentesis unless you really know how to do it, because it is an important operation, as important as laryngotomy would be. Upon that incision, whether it is made correct and clean, will depend the course of that patient, whether or not he will go on to sinus thrombosis. I have seen many cases of stabbing the drum head and hitting the internal ear, causing complications. The incision of the drum is all right providing you know how to do it, and, of course, that goes with everything. The general practitioner is too often urged to do the drum incision. He should do it if he knows how.

Dr. Clark spoke of the focal infection. I believe the focal infection is also overestimated. The infection which does harm is the pent up infection, the dental infection, and if anybody gets a good result from a tonsillectomy, he gets it not because he removed the sepsis within the crypts but because outside the tonsils he opened up an abscess. Wherever the infection is walled off away from the air, there you have the infection that causes the trouble. Many, many tonsils are removed under the belief that they do good for the sepsis when we know that they do not. The doctor says that too few tonsils are removed. I say that that may be discussed a little further.

THE DIAGNOSTIC HISTOTOMY.

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It was not many years ago that the surgeon was forced to wait a week or so for pathological reports on excised tissues. The freezing methods were welcomed at first but then came to be regarded with suspicion and by some men dis-

paraged. This was due mainly to the fact that men accustomed to and expert in the slower methods, failed to modify their technic to meet the freezing methods. To them, the dioxide method was synonymous with thick sections, poor fixation and imperfect staining.

But gradually the freezing methods have been refined and we have learned that much more beautiful and valuable preparations can be secured than by the slower methods. Of course, our staining solutions had to be radically changed and much that we had learned in the use of celloidin and paraffin had to be forgotten. Today the man who clings to the slow methods must despair when he realizes that those who have developed the newer technic do better work in half the time.

It is not the purpose of this communication to describe technic but rather to point out the vital need of this work; its value to the surgeon and its promise to surgical pathology.

Operating-Room Biopsies.—In certain instances the surgeon and patient may desire an "operating-room biopsy." These certain instances are gland, breast or uterus cases and the main object is to determine the extent of the operation, decision depending upon the findings. The biopsy may be finished in about two minutes by a skillful pathologist. Its desirability depends upon the nature of the case, the wishes of the surgeon and upon an intelligent understanding of the question by the patient or his friends. While of great value in selected cases, it is scarcely necessary as a routine procedure in all cases.

Working-Up Excised Surgical Material.—The most skillful operator may be, after all, the most stupid surgeon; and there is no standard of greater value for determining a man's claim to recognition as a surgeon, than the diagnostic standard. Many men still throw away excised tissues without further thought. But this material should always be examined carefully for the following reasons:

1. Avoid misunderstandings. The written report of a skillful and unprejudiced pathologist may convince the patient or his friends, or persuade some lawyer looking for trouble, that he has no case against the surgeon.

2. Promotes confidence. The patient usually appreciates the pathological report and recog-

nizes the thoroughness of the surgeon's study of his case. This is human nature; it may be only his natural curiosity, but most of us are curious enough when sick. I have seen it spell success for some surgical specialists.

3. Trains surgeon to become a better diagnostician and especially to become expert in gross pathology. Usually the pathological and clinical diagnoses agree. If they do not, there is a reason. Solution of the problem and its final settlement in each challenged instance, will be of great value to the surgical specialist.

4. Value in the "return case" or in case from some other community. Here is an instance: A surgeon of national reputation operated on a case in 1909 and removed some "growths" from the edge of the liver. Two years later this patient suffered recurrence of his trouble. It would have been very valuable could we have known whether these "growths" were gummata, neoplastic and type, tuberculous or ecchinococcus. Much to the chagrin of the surgeon, he could not supply this information, for through some misunderstanding the material had not been examined, and he had only his clinical diagnosis to supply from his case records.

5. Completion of case records. This has been covered more or less by what has been said above. This is not a discussion of case records. Apparently about all the case records some men keep are the ledger entries. There are perhaps other extremes, but it cannot be denied that a brief, practical case record is absolutely necessary for every patient. Many surgeons do not regard the record of a case as complete until there has been appended a pathological report on such tissues as were removed, and I believe that it is generally agreed that such surgeons are wise.

North Central Ave.

INFLUENCE OF CARBOHYDRATES AND FATS ON NITROGEN EQUILIBRIUM.

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CHICAGO.

Introduction.—The work here described is not original in character, but is of confirmative nature. In the experiment which lasted over a pe-

riod of seventy-three days, an effort was made to show that carbohydrates and fats do influence the altitude of nitrogen equilibrium. The question of experimental nitrogen equilibrium has been studied by Abderhalden, Rona, Henriques, Lusk, and others. Particular reference in determining the nitrogen value was given to the content of nitrogen in the urine. Since the theoretical significance of variations and chemical changes of nitrogen containing foods has been explained by Lusk, Sherman, Osborne and Mendel, and others, merely the procedure, results, and conclusions will be presented. In addition to the nitrogen

Metabolism cages built after the specifications published by Gies¹ were used in this study.

The dogs fasted for a period of three days and were then fed on a calculated diet for three days before data were taken. The animals were fed, urine and feces collected, and their weight taken at the same hour each successive day throughout the work. The preliminary treatment was advisable to accustom the animals to being handled, accustom them to surroundings, and establish a metabolic equilibrium—in other words, an effort was made to obtain data from animals that were as nearly normal as possible. The food con-

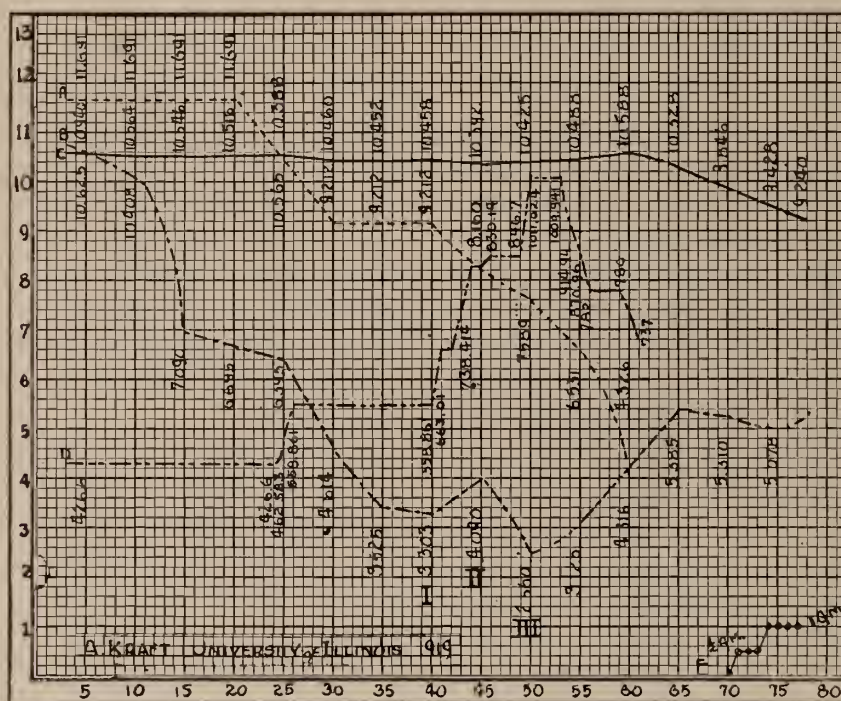


Fig. 1.

A Gm. N. fed per 5 day period.
B Dog wt. daily average in kilos.
C Gm. N. output per 5 day period.

D Calories per day.
E Vitamine. Beef pancreas.

equilibrium, the results of the variations of the heat requirement of the metabolic and functional activities of the body as influenced by the nitrogen content of the food, which is sufficient to maintain nitrogen equilibrium, will be presented.

Experimental—Two medium-sized dogs (about 10 kilos in weight), moderately well nourished, with short hair, were chosen for the experiment. Care was also taken to choose such animals that were not of a nervous type—for it is well known that metabolic function is to some degree under the control of the nervous system.

sisted of meat, cracker meal, pure lard (Swift & Co.), distilled water, and bone ash. The meat was prepared from beef heart in the following manner: The fat and fibrous connective tissue were removed as completely as practical and the meat then finely ground, pressed, cooled for forty-eight hours, pressed to remove as much liquid as possible, thoroughly mixed, placed in two-pound containers and kept at a temperature of zero degrees centigrade. It was accurately

1. American Journal of Physiology, 1905, xiv, p. 403.

weighed out and well mixed before being offered to the animals.

Quantitative analyses were carried out on the beef heart preparation, the cracker meal and the lard. From the data thus obtained, the exact amount of nitrogen of the food could be calculated. Careful sampling was carried out on the food material so as to make the analyses representative. This diet—beef heart, cracker meal, fat, water and bone ash—was considered sufficient to maintain nitrogen equilibrium, and support the metabolic processes of the body. Henriques arrived at that conclusion and it is expressed by Lusk in the statement, "The value of various proteins in nutrition may depend on their constituent amino-acids, and in the absence of the single amino-acid tryptophan, nitrogen equilibrium cannot be attained." Osborne and Mendel have shown that the single protein "zein" plus "tryptophan" supported life and growth in the rat. Since beef heart contains all the essential amino-acids, including tryptophan, all the requirements for nitrogen equilibrium in the dog are fulfilled. This is confirmed by Abderhalden and Rona, and also Henriques, in their experimental work. Tyrosin and cystin, which are also present in beef heart, are important amino-acids in maintaining growth and nitrogen equilibrium—Kauffmann seems of the opinion that they are almost as essential as tryptophan.

In making nitrogen determination on the urine, two samples were taken of each day's excretion. The results are shown in the statistical chart and also in the curve chart. The statistical chart is expressed in five-day periods.

STATISTICAL CHART

A	B	C	D	E
11.691	10.940	10.625	426.60	
11.691	10.408	10.546	426.60	
11.691	7.090	10.546	426.60	
11.691	6.695	10.516	426.60	
10.388	6.395	10.565	433.79	
9.212	4.614	10.460	558.86	
9.212	3.525	10.452	558.86	
9.212	3.303	10.458	558.86	
8.160	4.098	10.392	745.05	
7.589	2.560	10.425	879.57	
6.531	3.125	10.488	963.58	
4.362	4.316	10.588	772.88	
0.000	5.385	10.328	0.00	
0.000	5.310	9.846	0.00	Vitamine
0.000	5.078	9.428	0.00	"
		9.240		

A. Nitrogen—expressed in grams—fed per five-day period.

C. Nitrogen—expressed in grams—output per five-day period.

B. Average daily weight of dog—calculated from five-day period.

D. Average daily number of calories used by dog—calculated from a five-day period.

E. This is explained on the graphic chart.

CONCLUSIONS.

The conclusions drawn from the results are as follows:

1. Nitrogen equilibrium can be lowered by increasing the fat and carbohydrate diet.
2. Nitrogen equilibrium is lowest when the number of calories used by body is highest.
3. The replacement of protein calories by fat and carbohydrate calories is not equal. Relatively more fat and carbohydrate calories are needed to replace those of protein to maintain the animal in equilibrium. (See curves B. and D.)
4. Dog's weight can be maintained or even increased while nitrogen intake and nitrogen equilibrium are lowered. (See curves A. B. and C.)
5. There is a certain proportion of fats and carbohydrates that are most efficient in reducing the nitrogen equilibrium. (See I, II, III on curve B.)

It is seen that I is lower than II, regardless of the fact that more calories were fed at II than at I. A greater proportion of carbohydrates to fats were used at I than at II.

6. Vitamines influence nitrogen equilibrium and scem, in so doing, to lower the nitrogen equilibrium.

WHY HAVE BOTH THE PRIMARY FOCAL INFECTION AND THE SUBSEQUENT PULMONARY TUBERCULOUS DISEASE THEIR ORIGIN NEARLY ALWAYS IN THE AIR VESICLES AND NOT IN THE BRONCHIAL TUBES?*

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A pathologic study of pulmonary tuberculosis will show that the disease almost invariably has its beginning in certain definite areas in the lungs, thus to the exclusion of all other areas. Human tuberculosis is by far the greater number of instances, both in the primary infection and the following disease, is an aspiration process, the tubercle bacillus entering the lungs by means

*Read at the meeting of the Mississippi Valley Tuberculosis Conference at Des Moines, Iowa, September 22-24, 1919.

of the respired air or what is now known as the aerogenous route. In studying the origin of this disease it becomes necessary that we first consider the anatomical structure of this avenue or route, that is, the bronchial tree, from its origin at the trachea down to its most minute ramifications in the pulmonary tissue.

The bronchial tree from the larynx to the pleura permits of the following classifications, namely; 1. The main trunk. 2. The primary bronchi. 3. The secondary bronchi. 4. The tertiary bronchi. 5. The bronchioles (bronchi respiratori). 6. The terminal bronchi, the alveolar ducts (ductuli alveolares). 7. The atria (vestibuli) the air sacs and alveoli (sacculi alveolares, et alveoli pulmorum). The trachea,¹ the bron-

diately below the larynx the trachea is somewhat contracted, becoming wider as it extends downward, again contracting as it approaches the bifurcation, at which point it again widens and continues in this manner throughout the primary bronchi and to some extent those of the secondary and tertiary branches; by this anatomical structure the respired air on entering these tubes is given a distinctly rotary motion. If we outline on the outer chest wall the course of the bronchial tree and its various branches we will observe that the latter become gradually smaller and smaller and that they do not extend out into the pulmonary periphery, but that posteriorly they terminate on either side of the spine on a level with the eighth rib, and anteriorly on the left side at the fifth rib internal to the mammary line; on the right side they terminate at the fifth rib near the parasternal line and all the tissue beyond these points (towards the lung border) is occupied by the pulmonary parenchyma, the minute divisions of the distal ends of the bronchioles. If now we follow along the bronchial tubes, that is, from the main trunk at the larynx down to the primary bronchi, the secondary and tertiary to the terminal branches, the alveolar ducts, the distribution of the muscular structure, the smooth muscle fibres, we will learn that all this tissue gradually becomes less and less in amount as we proceed downwards and outwards and approach the pulmonary parenchyma, where all muscle fibres have entirely disappeared with perhaps the single exception at the terminal bronchi where a ring of unstriated muscle fibres, sphincter like, guard the entrance to the atria at the distal ends of the ductuli alveolares. No muscle fibres are found beyond this point, that is, in the pulmonary parenchyma, in the atria, alveoli or air sacs, all muscle fibres stopping at the distal ends of the terminal bronchi. Next, if we follow the course of the bronchial lymphatics which form a close network or meshlike structure in the walls of the bronchial tubes, we will observe that they gradually diminish in size and in amount as we proceed from the hilum pulmonum towards the outer lung tissue, becoming smaller and smaller, less numerous and terminating with the terminal bronchi the alveolar ducts, the ductuli alveolares and that no lymph vessels are found beyond this point, that is, beyond the ring of unstriated mus-



Schematic Representation of a Primary Lobule of the Lung—An Anatomical Unit—After Prof. W. Snow Miller, University of Wisconsin

EXPLANATORY NOTE

- b.r.—A bronchiol (bronchiolus respiratorius)
- d.a.l.—An alveolar duct (ductulus alveolaris)
- a.—An atrium (vestibulum)
- a.p.—An alveolus (alveolus pulmonis)
- s.a.l.—An air sac (sacculus alveolaris)
- p.—The pleura. The lobule is represented as being situated immediately under the pleura.
- x.—Ring of muscle fibre. End of all muscle tissue, lymph vessels and nucleated epithelial cells.
- y.—Represents the beginning of a second primary lobule, which is, however, not carried out in detail.

chi and the various branches both secondary and tertiary are not continuous, straight tubes becoming smaller and smaller as they approach the pulmonary periphery, but on the contrary, imme-

cle fibres which guard the entrance to the air sacs and that there are no lymph vessels in the walls of either the air sacs, atria or alveoli, all of which are situated in the pulmonary tissue proper. Now let us consider for a moment another important factor in this anatomical picture, namely, the epithelial lining of the bronchial tree from the main trunk to its ultimate termination in the alveoli and air sacs. From and including the larynx, the trachea, the primary bronchi, as well as the secondary and the tertiary branches and as far as the respiratory bronchi, the bronchioles, we find that the epithelial cells which line these tubes are of the ciliated cylindrical variety, but on the walls of the terminal branches of the bronchioles, the alveolar ducts, we find the lining to be a simple epithelium of the cuboidal variety and these cells of cuboidal epithelium extending towards the distal ends of these tubes become gradually flatter, ultimately joining at the atria, epithelium of the flat pavement variety, the polygonal cells which line the atria as well as the air sacs and alveoli. If next we study closely the anatomical structure of all of the various epithelial cells lining the bronchial tubes beginning at the larynx and continuing up to and including those which line the terminal bronchi, we find that they are all of the nucleated variety, both the ciliated, cylindrical and the cuboidal, but that the epithelial cells which line the atria, alveoli and air sacs are all of the non-nucleated kind. Now from these observations we note that the atria, alveoli and air sacs or air cells have no muscle fibres about their walls, that no lymph vessels are present within their walls and that the polygonal cells lining these walls are all of the non-nucleated variety.

As in a tree (and the bronchial tree with its air sacs may be likened to an oak tree with its numerous leaves) not all the leaves are found at the outer border at the profile, but many arise from the small branches and the branchlets about the main trunk, so in the bronchial tree all the air sacs do not arise at the periphery (and the air sacs are the analogue of the oak leaves in which the alveolar ducts may represent the stems and the air sacs the leaves proper), but many may arise in clusters about the smaller and the terminal bronchi and they are found to be both smaller and less numerous (just as in the oak tree), but the general structural arrangement,

however, is everywhere the same and they are lined with the same flat pavement epithelium of the polygonal variety, non-nucleated as are the larger and more numerous air cells. Now what relationship does all this bear to pulmonary tuberculosis?

More than twenty years ago Jacques Loeb,² University of Chicago, 1898, advocated the idea that the nucleus of a cell is its life, its center of oxidation, its power of resistance, its respiratory center. This is most clearly evidenced by the fact that if a cell is cut into many pieces, only those pieces are capable of regeneration which possess a fragment of a nucleus, and all the other parts perish soon; this will explain why cells without or being deprived of a nucleus are very short lived, are readily destroyed, show no resistance and are wholly unable to regenerate missing parts. A. P. Mathews,³ Hull Physiological Laboratory, Chicago, 1915, states that the nucleus in plant cells is directly concerned in the oxidation process, and that this is due to an autolytic enzyme present only in the nuclear sap. W. Spitzer,⁴ Breslau, as early as 1897 reported that the nucleo-protein extract from certain animal tissues, the liver, pancreas, kidney, testicle, muscle fiber, etc., has the same oxidizing power as the tissue itself; hence, from these observations we can conclude that the nucleus of the cell in both plant and animal tissue possesses highly oxidizing properties, a power not possessed by the non-nucleated cells; moreover, that non-nucleated cells are short lived, are easily destroyed, show no resistance and are wholly unable to regenerate missing parts. The cells lining the air sacs at the terminal or distal ends of the bronchi are all of the non-nucleated variety, possessing little resisting power, and consequently, are very easily destroyed by foreign bodies entering these cells, and from pathologic study we know that pulmonary tuberculosis has its origin not in the bronchial tubes, but in the pulmonary parenchyma, namely, in that portion of the lung in which the air vesicles are situated, lined with non-nucleated epithelium.

We have already spoken of the muscle fibres which form ring-like structures about the distal ends of the terminal bronchi, that is, just where the air vesicles begin. These muscle rings act as guards, forming sphincter-like openings into the

air sacs and the function of these rings undoubtedly is to inhibit foreign particles from gaining entrance into these air vesicles. That these rings of muscle fibres placed at the terminal ends of the bronchial tubes really guard the entrance to the air sacs can fairly well be demonstrated from observations which have so frequently been made, namely, that if otherwise healthy coal miners are accidentally killed while at work an autopsy will show the bronchial tubes filled with coal dust, but the air vesicles will be found comparatively free. If we next consider the terminal branches of the bronchial tree, the air sacs, we find that they are not supplied with muscle fibres, that in their walls no lymph vessels are found, that the epithelial cells lining these vesicles are all of the non-nucleated variety, that in consequence thereof they are very short lived, are easily destroyed, and offer no resistance, all of which tends to the production of a most favorable soil for the growth and development of the tubercle bacillus. The ring of muscle fibres at the entrance of the air cells undoubtedly guards these openings. If, however, from any cause, these fibres should become incompetent, as may happen when the organism becomes undermined from influences which lower vitality, then aspirated tubercle bacilli with the air current may pass this barrier, and having once entered, will readily displace the easily destroyed epithelial cells lining the alveolar walls, and tuberculous disease be the consequence. Active pulmonary tuberculous disease is usually described as a peribronchial infiltration, which has its beginning as a bronchiolitis or more definitely as an alveolitis. Aspirated tuberculous material, a softened lymph node containing tubercle bacilli, is carried with the air currents directly up into the pulmonary structure along the bronchial tubes and alveolar ducts into the alveoli. There the bacilli meet a cellular lining, an epithelium, which offers no resistance, is very easily destroyed, cannot protect itself or show any defense, and they like all invaders take possession, first of this delicate and then gradually of the surrounding, but now defenseless tissue, beginning the preparation of a new soil for their growth and development and little by little penetrating deeper and deeper into the

contiguous tissue, continuing to surround more and more bronchioles and gradually producing the morbid process in the lungs now designated as peribronchial tuberculosis, the subsequent growth and development rapidly or retrogression depending upon the fertility or non-fertility of the newly invaded soil, the environment and the age of the tuberculously affected individual.

SUMMARY

From conclusions drawn from the above observations can we satisfactorily answer the query: "Why has pulmonary tuberculosis its seat of origin always in the air vesicles and not in the bronchial tubes?" I believe we can. Let us see.

1. The bronchial tubes are accompanied by smooth muscle fibres throughout; at their distal ends all these fibres cease, but a ring of unstriated fibres guards, at these ends, the entrance into the air vesicles.

2. Within the walls of the bronchial tubes a fine network of lymphatics lines the entire walls throughout, but it stops abruptly at the ring of muscle fibres situated at the terminal ends of these tubes.

3. Ciliated cylindrical epithelial cells line the entire bronchial tubes with the exception of the alveolar ducts, the terminal bronchi which are lined with a cuboidal epithelium. Both the ciliated cylindrical and the cuboidal epithelial cells are of the nucleated variety and they do not extend beyond the ring of muscle fibres mentioned above. But,

4. The epithelium which lines the alveolar walls, the air sacs, distal to this ring of muscle fibres, is of the polygonal variety. These epithelial cells are all non-nucleated; within the walls of the air vesicles no lymph vessels are found nor are muscle fibres demonstrable. But we have also observed,

5. That epithelial cells which are non-nucleated are short lived, are easily destroyed, have no resistance or defense power and can not protect themselves against foreign bodies, like bacteria, dust particles, tubercle bacilli, etc., and

6. It is known that on the living, healthy nucleated epithelium, lining the bronchial tubes, the tubercle bacillus is perfectly harmless. For that reason pulmonary tuberculosis never has its

origin in these tubes, air vesicles are all lined with polygonal cells, which are non-nucleated and which are situated beyond that ring of muscle fibres, which, if competent, that is, if in perfect health, will prevent the entrance of the tubercle bacillus upon pulmonary tissue, where it grows and vegetates most readily.

3124 Washington Boulevard.

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SURGICAL TECHNIQUE IN TONSILLECTOMY.

J. Z. BERGERON, M. D.,

CHICAGO.

The most stable and enduring of surgical procedures are those founded on the fundamental principles of surgical pathology. In throat operations this is as true as in the surgery of any other part of the body. With this as a basis, this article is a plea for the observance of the very principles in tonsillectomy, which have brought abdominal surgery to a scientific basis.

The combating of surgical and physiological shock, as embodied in "bloodless" tonsillectomy, should be as fundamentally imperative in tonsillectomy as in major laparotomy. But that these basic fundamentals have been underrated, and are so, is very evident from the fact that the literature abounds with reports of cases of hemorrhage and with methods of controlling primary bleeding after tonsillectomy. The problem is still a serious one.

In the days of tonsillotomy, the question was no less a subject for debate than today. Thus Lefferts,¹ emphasizing that the seriousness was underestimated, summarized the results fully 37 years ago:

- "1. A fatal hemorrhage after the operation of tonsillotomy is very rare.

- "2. A dangerous hemorrhage may occasionally occur.
 "3. A serious one, serious as regards both possible, immediate and remote results, is not very unusual, and
 "4. A moderate one, requiring direct pressure or strong astringents to check it is commonly met with."

As early as 1848, Ungar recognized the dangers of hemorrhage following incision of the tonsils. In 1875 Mary of Paris brought to the attention of the surgical world the question of hemorrhage after ablation of the tonsils. Following him numerous articles appeared, thus: 1881, Lefferts; 1887, Dournie; 1888, Levis, Blair, Clarke; 1889, Delavan, Butler; 1890, Van Holst, Moure; 1891, Green; 1892, Hovell; 1893, Dawborn; 1894, De Santi, Bishop; 1895, Calhoun; 1904, Bennett; 1907, Jackson; 1909, Cohen; 1911, Barnes; 1912, Cocks, Franklin; 1913, McKinney, Hitz; 1914, Canestro, O'Malley, Vocher, Kyle, Stockney, Dupy, Garland, Davis; 1915, Hill and Elphick, Agnew; 1916, Marshall; 1917, Amsden, Doyer and Parker. In 1912 G. H. Cocks² stated that a brief review of the literature shows a considerable number of fatalities from hemorrhage alone, not including deaths from shock, status lymphaticus, pneumonia and other causes. Dr. J. Wright³ in 1890 reported 31 cases in the literature; and Dr. Harmon Smith,⁴ covering the years between 1890 and 1904, reported 24 cases. G. H. Cocks in his paper shows a table of cases of severe tonsillar hemorrhage reported from 1904 to January 1, 1912, in all, 44 cases. In the Manhattan Eye, Ear and Throat Hospital where about 2,500 adenoid and tonsil operations are performed annually, there are from 100 to 150 cases of alarming hemorrhage in a year. Last year, H. R. Boettcher⁵ brought the question before the Illinois State Medical Society, in his paper, "Ligature of the Vessels to Arrest Hemorrhage After Tonsillectomy."

Bearing the above data in mind, I am not intending to exalt any specific method of tonsillectomy, but I do wish to emphasize that surgical and physiological shock are not given their due

*Read before the Chicago Medical Society, North Shore Branch, May 6, 1919.

1. Tr. Am. Laryngol. Ass. N. Y., 1881, III, 135-151.

2. Med. Rec. N. Y., IXXI.

3. N. Y. Med. Jour., 1890.

4. Laryngoscope, Feb., 1904.

5. Ill. Med. Jour., XXXIV, Oct., 1918.

importance. By surgical shock, I have reference to the factors of local and general anesthesia, instrumentation, post-operative pain and loss of blood. Physiological shock is chiefly concerned with the loss of blood, in conditions where this loss is the vital factor in swaying the balance against the patient. For example, there is a class of patients, as anemic girls, infants, debilitated individuals with cardiac and rheumatic complications, who have large or small necrotic, pus-bearing tonsils, which act as a continual source for toxic absorption. It is evident that removal of these tonsils is imperatively indicated. The surgeon performs tonsillectomy. Perhaps from an ounce to a pint or more of blood is lost in the ordinary procedure. And that this is so, one can readily convince himself by attending clinics where large numbers of tonsillectomies are performed. This loss of blood adds insult to injury. To surgical shock, resulting from the technical procedures of instrumentation and anesthesia, there has been added physiological shock from loss of blood. The patient develops a bronchitis, a pneumonia, a lung abscess or various other secondary infections, or anemia, which not infrequently results fatally. Why? Because there has been loss of blood, of life fluid, a loss of antibody, immune body, hemoglobin, or what you will. The fact remains that the loss of blood in these individuals who have not a drop to spare results disastrously.

There is a series of cases, which follow tonsillectomy as secondary complications, to which attention should be called, namely, lung and brain abscesses, especially the former. The brevity of this paper precludes any exacting discussion of the subject, but I wish to bring out a few points in passing.

In recent years with the better facilities for following up post-operative cases there has come to light a number of these complications. Dr. Arthur Dean Bevan states that from 10 to 12 cases have been seen in the Presbyterian Hospital, Chicago, in a few years, and the Cook County Hospital records show that lung abscess is not so rare a complication following tonsillectomy. That brain abscesses arise almost independent of post-operative tonsillar hemorrhage through general infection through the blood stream, may readily be accepted, but that lung abscesses arise

chiefly in this manner may well be contested. The probability of aspiration as the etiologic factor is very strong. I believe that primary bleeding and poor anesthesia are the essential factors, rather than the aspiration of bits of tonsil or the whole gland. A poor anesthesia with a struggling, gagging patient and a pharynx filled with blood containing large numbers of bacteria from infected tonsils, surely offer sufficient etiology, and this is borne out by the cases recorded at the Cook County Hospital.

I believe that the observation of the following precautions will effectively cut down the number of these cases:

1. Avoid tonsillectomy in acute inflammatory conditions of the tonsils.
2. Employ thorough local or general anesthesia.
3. Clamp off the tonsils slowly, so that the blood and lymph channels are crushed rather than cut.
4. Avoid undue manipulations.
5. Control bleeding immediately.

One may say that secondary complications are perhaps one in 500. But the observation of surgical principles among the 499 will save the 500th, and, what is more important, will spare many of the 499. The evident moral is: Conserve the patient's blood and you conserve his strength and life.

We may now well inquire as to the factors which are concerned in hemorrhage or rather bleeding. An accurate understanding of the anatomy and pathology of the tonsils is of course essential. I can state nothing which has not already been worked out. A brief but excellent paper is that of Joseph C. Beck⁶ of "Some Points in Anatomy, Pathology and Surgical Treatment of the Faucial Tonsil."

As far as the etiologic factors of tonsillar bleeding are concerned, we recognize that it is more common in the very young and in adults, perhaps more so in males. Anemic children and women at menstruation and pregnancy show a well-marked predisposition, as do individuals evidencing arteriosclerosis and chronic nephritis. Certain patients will give a history of a

6. Ann. of Otol. Rhin. and Larynx., March, 1909.

hemorrhagic diathesis or hemophilia. During the acute infectious diseases and acute inflammatory conditions of the tonsils bleeding is wont to occur. Locally, it is noted that fibrous, syphilitic and malignant tonsils bleed very easily. Frequently there is traumatism to the tonsillar pillars and adjacent structures. Finally one must bear in mind the possibility of abnormal blood supply.

The latter brings up the question of the vascular supply of the tonsils. The larger vessels enter the tonsil in its lower portion, hence bleeding occurs most commonly at the base between the pillars, and in the lower halves of the pillars. In 1910 G. Seccombe Hett⁷ made a careful study of the blood supply of the tonsil, reporting as follows:

The vessels supplying the tonsils are the ascending palatine and tonsillar branches from the facial, the ascending pharyngeal from the external carotid, branches from the dorsalis linguae from the lingual, the descending palatine from the internal maxillary. The branches from the facial are the largest, and enter the capsule after piercing the superior constrictor. They reach the capsule in its lower part, and running upwards, ramify on its outer surface. They then divide into branches which pass into the tonsil above the connective tissue septa, with the exception of some which pierce the capsule of the tonsil at once to supply the lower portion of the tonsil. The branch from the descending palatine pierces the upper part of the capsule and supplies the imbedded pars palatine and the posterior pillar. One or two branches of the dorsalis linguae reach the lingual surface of the tonsil, and supply the anterior pillar, the plica triangularis and the lingual prolongation.

An abnormal course is sometimes taken by the ascending pharyngeal, lingual, facial and internal carotid arteries.⁸⁻¹⁰

This knowledge of the vascular anatomy of the tonsil and the pathogenesis of bleeding following tonsillectomy must necessarily place the surgeon in a better position for controlling operative accidents and avoiding shock from loss of blood. This may perhaps convey the idea that these combative measures for "bloodless" tonsillectomy are to be secured by a specific method of tonsillar enucleation. In some ways, yes, but fundamentally the various operations of present day

tonsillectomy vary but little in their end result and thus as far as the end result is concerned there is little to choose. The method is a matter of individual efficiency. But all methods should be practiced with the idea that the operation should be an almost bloodless one, as it can be.

In my own experience with tonsillectomies I early came to believe that a flagrant violation of a vital principle occurred every time a needless amount of blood was lost and I thus became interested in the principle of bloodless tonsillectomy. After running the gamut of twenty years of tonsillar operations I finally have come to rely, after seven years use, on the Beck ring instrument. However, I have felt the need of a more rational means for the control of primary bleeding, which is almost entirely controllable and avoidable. To this end I spent two years in devising my pillar compression forceps, which I reported in the *Journal of the American Medical Association*, February 12, 1916, Vol. LXVII, pp. 505 and 506.

Various methods have been employed to stop bleeding immediately following tonsillectomy. In spite of the fact that I believe that the objections against one are the objections against all, namely the severe reaction caused by manipulation within the tonsillar fossae, I freely admit that after all the technical procedure is a matter of individual aptness and finesse of technique. The application of hemostatic substances, such as tannic acid, hydrogen peroxide, alcohol, Monsel's solution and epinephrin, produces more or less sloughing, fibrinous exudation or marked infiltration. The hemostatic clamp, producing pressure in the fossa by means of a gauze plug, achieves no better results. Likewise suturing of the pillars over a gauze plug, while avoiding the firm pressure of the clamp, produces marked local tissue reaction. Ligation of the bleeding point, after it has been seized by artery forceps, results in trauma to the part and necrosis of the tissues if too much has been included in the original bite of the forceps, to say nothing of the trauma done to the area by frequent bites of the forceps before the bleeding point is seized, and the great difficulty of performing ligation in this site. As for suturing the pillars without the insertion of a gauze plug into the fossa, while nearer the ideal than any of the other methods,

7. *Jour. of Laryn. Rhin. & Otol.*, Nov., 1910.

8. E. Hemking: *Archiv. für Laryngologie und Rhinologie*, 1905;

9. Denis: *Wein klin. Wochen*, 1904;

10. Lefferts: *Archives of Laryngology*, Vol. 3, 1882.

produces trauma to the part with subsequent reaction, both at the time of insertion and at the time of withdrawal of the sutures.

To overcome these objections and to control effectually the primary bleeding, as well as secondary, pillar compression forceps were devised to squeeze the pillars together over the tonsillar fossa. At the same time the fossa is protected from manipulation and the introduction of foreign substances. A surgically clean cavity is left unhandled, as a result of which there is no trauma to the parts and relatively little reaction; at least, much less than occurs following manipulation in the fossae. As a result, secondary hemorrhage is less common, because there is less chance of mechanical dislodgement of the coagulum or of its infection. The same results can be secured in controlling secondary hemorrhage, and a factor of great importance is that the pillars are in no way injured by the force of the compression, so that should it be imperative to introduce a suture or two for the purpose of obtaining a more prolonged compression of the fossa, this can be done without the fear of their tearing out because of previous interference with the vitality of the tissue.

No less important than the active treatment is the prophylaxis. Tonsillectomy is distinctly a hospital operation and only under exceptional circumstances can be carried out in the home. Every patient should have the advantage of a careful examination including heart, lungs, kidneys, arteries, blood pressure, temperature and coagulation time of the blood. The pathogenic conditions which underlie tonsillar bleeding must be sought for in a careful history.

Only by the observation of these fundamental principles involving the vascular anatomy of the tonsil, the pathogenesis and prophylaxis of its bleeding, and immediate active treatment can we reach a level of sane "bloodless" tonsillectomy, which is founded on the combating of surgical and physiological shock. Finally, permit me again to emphasize that the technical procedure is a matter of individual aptness. Really excellent results are secured by many surgeons who recognize the problem and employ a technique which may be entirely individual, or a combination of various measures in vogue today. Your finesse of technique in avoiding hemorrhage after tonsillectomy measures the patient's welfare.

HEALTH INSURANCE FROM THE STANDPOINT OF THE PHYSICIAN.*

CHAS. J. WHALEN, M. A., M. D., LL.B.,

CHICAGO.

Health insurance from the standpoint of the physician has a direct bearing upon public health because of the fact wherever it has been tried it has stopped all medical progress (as shown by Dr. E. H. Ochsner) and it has brought about the worst imaginable form of medical service. Poorly equipped doctors and inferior medical service are necessarily potent factors in keeping up the morbidity and mortality rate of the community.

In Germany and Austria, where health insurance has been in vogue for thirty years or more, the quality of the German and Austrian medical men has so deteriorated and the people get such poor medical service that the lowering of mortality and morbidity in these countries has not kept pace with America and other countries not having health insurance laws.

Compulsory health insurance has crushed the independence and enthusiasm out of the German profession to such a degree that each year men of real ability are studying medicine in smaller and smaller numbers.

Thirty years ago Germany and Austria were leaders in the science of medicine. Today they have taken a place way down the scale of comparison. It has been authoritatively demonstrated (Dr. E. H. Ochsner) that the medical men of the first magnitude in both Germany and Austria today under forty years of age can be counted on the fingers of one hand and this in a population of one hundred and forty millions of people.

In countries not cursed by compulsory health insurance progress has been steadily upward. America, for instance, has taken the place previously occupied by Germany and Austria, before they established health insurance.

Because it has stopped scientific medical progress, as it has in Europe, by destroying the incentive for research and individual excellence, it is, therefore, undesirable to the public, by whom the effects of insufficient service would be most keenly felt. In other words, where medical prog-

*Read at the 69th Annual Meeting of the Illinois State Medical Society, May 21, 1919.

ress is retarded, the physical welfare of the community is jeopardized.

As illustrating the kind of medical service that is given under a compulsory health insurance system I call your attention to the working of the law in England. Brend in his book "Health and the State" says that no one aside from the panel doctor is satisfied with the working of the English law. The German law was a practical failure. The English is worse. It fails to provide competent care for those needing it. Some investigation showed that for making diagnosis, writing prescriptions, making records, a panel doctor averaged three and one-quarter minutes per patient.

Health insurance laws, wherever tried, have demoralized the medical profession and this necessarily reacts to the detriment of the public health. Friedensburg, formerly head of the German Insurance Office, in his work "Practical Results of Workingman's Insurance in Germany" says: "The demoralization of the medical profession is one of the most unfortunate by-products of the European social insurance system. The evidence shows there is constant strife between physicians and the carrier association. Evidence, too, shows there has been sudden prosperity of those physicians who have catered to the whims of the insured who practice malingering and the utter ruin of doctors who have held their professional standing above the demands of the masses for unearned benefits and pensions. The evidence, too, shows discontent and dissatisfaction among physicians culminating in strikes and again in the refusal of the best men to allow their names to go on the panels. As a result, the insured get only inferior medical service. In other words, the least efficient doctors will make the most money, and from the standpoint of the people, the services will be much deteriorated.

"A physician who has the reputation of being 'generous' in his diagnosis is certain of a host of patients, and the courts of honor of the medical profession have repeatedly been forced to interfere, since this generosity has led to a suspicious disturbance of scientific knowledge. A melancholy counterpart is furnished by the numerous cases in which a physician of probity renders an expert opinion unfavorable to the pension claimant begging that the claimant in question be kept in ignorance of this opinion, since otherwise the

physician concerned would lose his practice, while his neighborhood would be made too hot to hold him."

Another phase of the medical problem is the fact that it would represent the first case in history of a compulsory trades union. No physician could serve, unless he joined a local panel, and received his credentials as a panel or union physician. His union, however, could not get a charter from the American Federation of Labor, because that organization makes its own laws and rules, and its subdivisions regulate their charges for service, while the panel physician could not say when or where he would work, or how much he would charge. The State Commission would fix his pay, the medical directors of the Carrier Associations would say when his patients were sick and when they had recovered and the Carrier Association would dispute his charges. His efforts to prevent fraud and malingering would gradually set up a boycott against him as an unfair physician. He would have to have under his care, and call upon daily, every day of the year, twelve patients, in order to make a bare living, and in order to do that he must be certified by the medical director, certified by the patient, audited and disputed by the Carrier Associations and waste time arguing his appeals before the commission.

From a public health standpoint the justification of the expenditure of seventy million dollars annually in Illinois would not warrant the enactment of a compulsory health insurance law unless it can be shown that such a measure would materially lessen the morbidity and mortality.

I am able to show that the alleged improvement in health will not materialize. It will not remove the cause of illness, nor will it reduce the number of cases or the average length of disability, and I have but to refer to existing records or similar schemes in Europe to prove this assertion.

More Germans die or lose time by sickness, under health insurance, than Americans.

Not only do the wage-earners of Germany and Austria lose more time through sickness under compulsory health insurance laws than in the United States without such laws, but it also is interesting to note that it has produced in the habits of German and Austrian workers a tendency to become sick, to imagine they are sick, or

to make believe they are sick. The figures are illuminating. In Germany out of every 100 insured wage-earners, 36.7 were listed as sick in 1890, and 45.6 in 1913; in Austria the corresponding figures were 45.7 in 1890, and 51.8 in 1913. In Germany the average number of days of sickness for each sick member increased from 16.2 in 1890 to 17.4 in 1913. The average number of days of sickness per insured member, which was 5.9 in Germany in 1885, when the law had just gone into effect, increased to 6.19 in 1890, and 9.19 in 1913, while the Austrian statistics from 1890 to 1913 show an increase from 7.98 to 9.45 days. Not only did the duration of sickness per person increase, but more persons were reported sick in Germany and Austria in 1913 than in 1890, showing the compulsory health insurance laws did not prevent sickness nor minimize its duration and, therefore, did not promote efficiency.

LOWER DEATH RATE IN THE UNITED STATES.

In 1912 the death rate in Germany was 15.6 per thousand population; in Austria, 20.5, and in Hungary, 23.3. Now compare these figures with the mortality rates in several countries which had no compulsory health insurance laws in effect. In the same year the death rate in Australia was 11.2; in New Zealand, 8.9; in Sweden, 14.2; in Switzerland, 14.1; in Belgium, 14.8; in Denmark, 13; in the Netherlands, 12.3, and in the United States, 13.9, which was further reduced in 1915 to 13.5.

This low rate was obtained in spite of the fact that the ordinary tendency to disease is aggravated by a great variety of climates in the United States, by diversity of races represented in our population and the fact that the United States has kept its doors open to millions of immigrants unused to our change of climate, many of them physically wasted by toil and privations in their homeland.

WILL NOT DECREASE POVERTY.

Under all the schemes for compulsory health insurance as yet proposed the persons most needing the insurance will not get it. Those who are out of work, except on account of illness, longer than the extension of one week for each four weeks during the previous 26 weeks of paid-up assessments; those who are unable to get into the

voluntary insurance societies because they are unable to pass the medical examination, and those who are not insured because they are unable to get work on account of their age; alcoholism, shiftlessness, general incompetency, or any other disabling condition which prevents them from being employed in times of financial distress or panic—these unfortunate conditions will be magnified manifold.

Under the health insurance scheme the lot of the casual laborer would be grievously hard. It is axiomatic that the less a man earns per day the fewer days he works. Many cannot spare the amount necessary to pay the premiums continuously in order to receive the benefits. Therefore, those who are unable on account of general incompetence, previous illness or any other disabling condition, will be left outside the operation of this bill.

The proposed health insurance legislation does not make provision for the very poor, as such plans include the steady workers (a picked group), and not those who most need the insurance.

Moreover, the casual worker, the physical defective and the wage-earner above the insurable age who are present are able to provide for their own needs by at least part-time work, would by this bill be forced into involuntary idleness and consequent poverty.

WILL INCREASE POVERTY.

Finally, I wish to emphasize that health insurance will not decrease poverty, but on the contrary, will increase it by creating what might be called a human scrapheap.

In addition to these who constitute the present charity list will be added the 250,000 who, through physical unfitness or old age, will be driven to involuntary idleness through the operation of this bill.

Age and physical condition would debar from steady employment and throw into the list of casuals, most of the workmen over fifty-five years of age which, figured at only two per cent. of the covered wage-earners, would mean 48,000. Add 10,000 mentally defective, 35,000 tuberculars, 100,000 venereals, and 60,000 chronics who are intermittently disabled, and you produce a scrapheap of over 250,000, for the state or community to support or provide with employment, because

every employer would be justified in demanding rigid physical examination of workmen. Necessarily the employer in order to keep his assessments low will carefully choose his employees, excluding by medical examination all who are not physically perfect, and the discard from these examinations will increase our already permanent pauper class.

Prevention is the antithesis of compulsory health insurance. It has often been claimed that a sickness insurance system creates an incentive for preventive work. The experience of the European countries does not support this contention. Indeed, it is difficult to see any logical ground for the claim; a clear appreciation of the extent of sickness and disability and the heavy burden which they place upon society should be the sufficient and powerful incentive for prevention. Insurance is not the solution of the problem. If interest in prevention can be aroused through an insurance system, it should be much more sharply stimulated by an organized program having prevention for its chief object.

Disability as contemplated under compulsory health insurance arises largely from carelessness, recklessness, intemperance, use of drugs and personal vice and immorality. Laxity in applying the laws governing communicable diseases, housing conditions, water supply, food inspection, drainage, streets, alleys and yards and smoke and gas polluted air.

Most dentists agree that 80 per cent. of adults would have comparatively good teeth, instead of 90 per cent. of them having bad teeth, if the teeth were looked after regularly from childhood. Sixty per cent. of all sickness is preventable. It would seem then that the logical and economic thing to do would be to strike at the root of this social evil by setting up a system of conservation.

All sickness and disability which can reasonably be prevented should be prevented instead of being allowed to remain unremedied until they impose a burden of misery and poverty on the individual and a burden of cost on society.

25 East Washington Street.

PERNICIOUS ANEMIA

Further observations on the gastro-intestinal disturbances of pernicious anemia are reported by J. Friedenwald and T. H. Morrison, Baltimore (*Journal*

A. M. A., Aug. 9, 1919). They review the literature of the subject, and call attention to the increase of eosinophil cells found by Lubarsch in the interstitial tissue of the gastric mucosa, and the degeneration of the motor nerve elements of the intestine, noted by Jurgens, which led to the view that in certain cases these nerve lesions may be the primary cause of the anemia. Eighteen instances additional to those reported by Friedenwald in 1912 have been observed, and the conditions are described. The authors say, "From a study of the seventy-six cases of pernicious anemia, it is evident that a large proportion of these cases are attended with gastro-intestinal disturbances as well as with an absence of gastric secretion; there is present an achylia gastrica in about 74 per cent of the cases, and even in the stage of apparent recovery the gastric secretion does not return. In a smaller proportion of cases, 19 per cent, there is a marked diminution of the secretion, and in a few instances, about 7 per cent, it remains normal."

"ONE BIG UNION"

Portland, Oregon, Feb. 4.—Here is what Portland physicians, surgeons and dentists want, according to Otto Hartwig, president of the American Federation of Labor, who would organize them into the first union of the kind in the United States. He said so today.

A charter in the American Federation of Labor that will guarantee them:

An eight-hour day.

The right to picket officers of non-union medicos.

The power of the sympathetic strike.

A living "fee."

But there are two little problems yet to be solved. One is a name for the organization; the other is to classify them, according to Hartwig. They are not wage earners nor yet are they clerical workers because they accept fees. But this difficulty will be remedied in time, he added. The name suggested for them is the Associated Union of Dissectors, Pulse Takers and Prescribers—*Exchange*.

GOVERNMENT NEEDS PHYSICIANS

The United States Civil Service Commission announces that a large number of physicians are needed for employment in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, and the Panama Canal Service. Both men and women will be admitted to examinations, but appointing officers have the legal right to specify the sex desired when requesting the certification of eligibles. Entrance salaries as high as \$200 a month are offered, with prospect of promotion in some branches to \$250, \$300, and higher rates for special positions. Further information and application blanks may be obtained from the secretary of the United States Civil Service Board at Boston, New York, Philadelphia, Atlanta, Cincinnati, Chicago, St. Paul, St. Louis, New Orleans, Seattle or San Francisco, or from the United States Civil Service Commission at Washington, D. C.

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State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

APRIL, 1920

Editorial

MAKE HOTEL RESERVATIONS EARLY.

The annual meeting of the Illinois State Medical Society will be held May 18, 19 and 20 at Rockford. Owing to the crowded conditions at hotels, it will be necessary to make reservations at the earliest possible date.

The committee of arrangements have been promised 300 rooms at the Nelson Hotel at Rock-

ford and with rates for single rooms and special at \$1.50 for two or more in one room.

All requests for rooms should be made direct to the Nelson Hotel, Rockford, Ill.

Again we urge that reservations be made as early as possible.

TWO DOCTORS—SIXTY LAWYERS.

Lawyers monopolize the constitutional convention and as usual, the doctors come out of the small end of the horn. In the "Con Con" Convention the lawyers have sixty out of one hundred and one delegates. Farmers have ten; bankers eleven; and the doctors a measly two. The following is a complete list of the make-up of the convention:

Of the 101 delegates making up the constitutional convention sixty are attorneys.

Almost all of the lawyers are actively engaged in the practice of law and a number of them are retained by railroad, traction and telephone companies.

Next to lawyers, banker delegates rank highest in numbers. There are eleven who are either officers or heavy stockholders in banks.

Among the remaining delegates ten are farm owners. Five are engaged in manufacturing, four are merchants, two are doctors. The pulpit has one representative and there is one undertaker helping to make the new constitution of Illinois.

Rufus C. Dawes of Chicago is listed as a "manager of corporations." He is the organizer of gas and electric light companies in Louisiana, Indiana, Washington, Texas and Alabama.

John J. Brenholt, Jr., of Alton, is assistant to the president of the St. Louis & Suburban Railway company.

J. Mack Tanner of Flora gives his occupation as "orchardist."

William S. Gray of Coatsburg is a combination farmer-school teacher-banker.

Michael Iarussi of the Seventeenth district, Chicago, is the undertaker delegate, and Archibald J. Carey of the Third district, Chicago, is the preacher.

David E. Shanahan of Chicago is rated as a real estate dealer, and Oscar Wolff of the Thirteenth district, Chicago, as a pickle manufacturer.

Illinois State Medical Society

PRELIMINARY PROGRAM

SEVENTIETH ANNUAL MEETING

Rockford, May 18, 19 and 20, 1920

SECTION ON SURGERY

1. The Long Interval in Two Cases of Skull Fracture—E. S. Murphy, Dixon.
2. Defending the Carrel-Dakin Treatment—W. E. Potter, Oak Park.
3. Title to be announced—Roland Hazen, Paris.
4. Diagnosis and Treatment of Osteomyelitis—A. J. Ochsner, Chicago.
5. The Treatment of Bone Cavities from Chronic Osteomyelitis—Carl Beck, Chicago.
6. An X-Ray Study of the Development of Osteomyelitis—Robt. E. Lee Gunnings, Galesburg.
7. Hospital Standardization—C. E. Humiston, Chicago.
8. Surgical Diseases of the Abdomen, Complicating Normal Pregnancy—N. P. Harlan, Freeport.
9. Oration on Surgery—George W. Crile, Cleveland.
10. Peripheral Nerve Injuries, Diagnosis and Treatment—Dean Lewis, Chicago.
11. Fracture of the Skull—George N. Kreider, Springfield.
12. A Plea for Early Operation in Kidney Tuberculosis—Daniel Eisendrath, Chicago.
13. Trocar Thoracotomy versus Rib Resection in the Treatment of Empyema.—O. F. Schullian, Quincy.
14. Bone Surgery—J. F. Golden, Chicago.
15. Title to be announced—John L. Sloan, Peoria.
16. Applied Mechanics in Bone Surgery—Paul B. Magnuson, Chicago.
17. The Technique for the Removal of Foreign Bodies—W. M. Thompson, Chicago.
18. Abscess of the Tongue—John C. Dallenbach, Champaign.
19. Hernia of the Bladder—Leigh F. Watson, Chicago.
20. Treatment of Some Pelvic Inflammations—C. H. Tierman, Decatur.
21. The Surgical Treatment of Gastric and Duodenal Ulcer with a New Method of Pyloroplasty. Lantern Slides and Picture Films—Alfred A. Strauss, Chicago.
22. The Laboratory as an Aid in the Diagnosis and Treatment of Diseases of the Thyroid Gland—Oscar J. Elsesse, Freeport.
23. Transfusion of Blood at a Distance—V. D. Lespinasse, Chicago.
24. The Technique of Goiter Operations—E. P. Sloan, Bloomington.
25. Experiences and Changes Taken Place in Twenty-five Years Appendicitis Operations—E. M. Sala, Rock Island.
26. Strumectomy, Safe and Effective—Weller Van Hook, Chicago.
27. Some Practical Phases of Local Anesthesia—John R. Harger, Chicago.
28. Traumatic Fracture with Complicating Nerve Lesions—Orlando F. Scott, Chicago.
29. Three Days versus Three Weeks in the Hospital for Hemorrhoidal Operations (Lantern slides)—J. Rawson Pennington, Chicago.
30. Diagnosis and Treatment of Cervical Ribs—Carl B. Davis, Chicago.
31. A New and Efficient Method for the Use of Wire in Bone Surgery—James M. Neff, Chicago.
32. Fibroid Tumors in Pregnancy—Aimé Paul Heineck, Chicago.
33. Interpretation of Early Abdominal Symptoms from a Surgical Standpoint—Frank D. Moore, Chicago.

SECTION ON MEDICINE

- Oration in Medicine—Wm. Engelbach, St. Louis, Mo.
- Doctors and the Public Health—C. W. Lillie, E. St. Louis.
- Foreign Bodies in the Brain, Illustrated with Lantern Slides and with Special Reference to Roentgenological Findings—Harold Swanberg, Quincy.
- Individual Preventive Medicine—Anna Weld, Rockford.
- Mouth Infection and Systemic Disease—W. M. Hartman, Macomb.
- Stramonium and its Untoward Effects—W. E. Shastid, Pittsfield.
- Early Diagnosis of Syphilis—C. C. Kost, Dixon.

- The Caloric Method of Bottle Feeding in Normal Babies—L. O. Frech, Whitehall.
- Twilight Sleep—Elizabeth R. Miner, Macomb.
- Early Diagnosis and Treatment of Pulmonary Tuberculosis—D. A. Brown, Peoria.
- Subject to be announced later—Geo. P. Gill, Rockford.
- Intestinal Stasis, its Cause and Treatment—Katherine B. Luzader, Greenville.
- Bronchopneumonia with some Complications—G. W. Rice, Galena.
- The Use of the X-Ray in the Treatment of Carcinoma—H. A. Chapin, Jacksonville.
- Cubism in Medicine—Geo. F. Butler, Wilmette.
- The Fatality of Industrial Electric Currents—Frank Chauvet, Chicago.
- The Radium Treatment of Goiter—Arthur N. Clagett, Chicago.
- Diagnosis of Duodenal Ulcer with Lantern Slide Demonstrations—Robert L. French, Chicago.
- The Management of Syphilis—Louis D. Smith, Chicago.
- Non-specific Pulmonary Infections Subsequent to Influenza Pneumonia—Jas. G. Carr, Chicago.
- Subject to be announced later—R. C. Bourland, Rockford.
- A Plea for the Bed-time Toilet—C. B. Johnson, Champaign.
- A Case of Syphilis of the Stomach with Negative Findings in Blood and Spinal Fluid—Sidney A. Portis, Chicago.
- The Spastic Factor in Arterial Hypertension—Karl K. Koessler, Chicago.
- The Etiology of Pulmonary Tuberculosis—Robert S. Berghoff, Chicago.
- The Significance of Cardiac Murmurs—Clarence J. McMullen, Chicago.
- Differential Diagnosis of Gall-bladder Disease and Duodenal Ulcer—Leon Bloch, Chicago.
- Location of the Apex beat in Relation to Diseases of the Chest—Max Biesenthal, Chicago.
- The Treatment of Nervous Irritability and Excitement—Edmund Jacobson, Chicago.
- Chronic Fatigue in Women—Clara P. Seippel, Chicago.
- Diagnosis of Heart Lesions Simplified—Jno. Weatherson, Chicago.
- SECTION ON EYE, EAR, NOSE AND THROAT
- Some Problems in Intra-ocular Tension—Thomas Faith, Chicago.
- Discussion—Heman H. Brown, Chicago.
- A Glaucoma Question—Michael Goldenburg, Chicago.
- Discussion—Dwight C. Orcutt, Chicago.
- Surgery of the Ethmoid Labyrinth—A. H. Andrews, Chicago.
- Discussion—Carroll B. Welton, Peoria.
- Observation in Sphenoid Sinus Disease—John A. Cavanaugh, Chicago.
- Discussion—Chas. H. Spears, Champaign.
- The Role of the Nasal Accessory Sinuses in the Production of Eye Diseases. Stereopticon slides—Richard J. Tivnen, Chicago.
- Discussion—R. C. Matheny, Galesburg.
- The Eye in its Relation to Diseases of the Nose, Throat and Teeth—Oliver Tydings, Chicago.
- Discussion—A. L. Adams, Jacksonville.
- Treatment of Chronic Dacryocystitis by Curettment—H. W. Woodruff, Joliet.
- Discussion—Chas. B. Voigt, Mattoon.
- Peri-Tonsillar Abscess and its Radical Treatment—Louis Ostrom, Jr., Rock Island.
- Discussion—Watson Wm. Gailey, Jr., Bloomington.
- Severe Complications of the Head and Neck Following Influenza—Jos. C. Beck, Chicago.
- Discussion—Frank Brawley, Chicago.
- Some Mastoid Complications—John Sheldon Clark, Freeport.
- Discussion—Norval H. Pierce, Chicago.
- Differential Diagnosis of Functional and Organic Lesions of the Inner Ear, Nerve Pathways and Central Nervous System. Slide Demonstration—Chas. M. Robertson, Chicago.
- Discussion—Harry Kahn, Chicago.
- Is the Human Eye Degenerating?—Willis O. Nance, Chicago.
- Discussion—Thomas O. Edgar, Dixon.
- Diseases of the Retina—Wesley Hamilton Peck, Chicago.
- Discussion—Wm. L. Noble, Chicago.
- SECTION ON PUBLIC HEALTH AND HYGIENE
- Plans for Development of Efficient Health Organization in Cities and Rural Sections of Illinois—C. St. Clair Drake, Springfield.
- Hygiene, the Best Prophylaxis in Tuberculosis—M. W. Harrison, Collinsville.
- A Housing Code for Illinois—Senator Harold Kessinger, Aurora.
- What the War has done for Advancement of Sanitation—W. S. Rankin, Pres. American Public Health Association, Raleigh, N. C.
- Subject to be announced later—Curtis F. Lyter, St. Louis, Mo.

A Rational Program for the Prevention of Pollution of Lakes and Streams—Paul Hansen, Urbana.

The Venereal Disease Problem—C. C. Pierce, U. S. Public Health Service, Washington, D. C.

The Proper Limitation of State Medicine—Victor C. Vaughan, Dean, Medical School, University of Michigan, Ann Arbor, Mich.

Influenza Epidemic of 1920—J. J. McShane, Dept. Public Health, Springfield.

The State and Its Interest in Conservation of Health and Life of Its Children—C. W. East, Springfield.

Legal Aspect of Birth and Death Records, and the Duty of the Physician to His Clients—Robert J. Folonie, Chicago.

The Need for a Special Course in Public Health in Medical Colleges—A. C. Eycleshymer, Dean, Medical School, University of Illinois.

Subject to be announced later—Fred R. Green, Chicago.

The Need of Strict Enforcement of Notification in Cases of Diagnosed and Suspect Pulmonary Tuberculosis—Eugene J. O'Neill, Chicago.

Subject to be announced later—John Dill Robertson, Commissioner of Health, Chicago.

THE MEDICAL PROFESSION AND THE CONSTITUTIONAL CONVENTION.

The following is a sample of material that is being circulated amongst delegates at the Con Con Convention as a part of the propaganda to have radical changes made in the law, and to undermine the powers of the Departments of Registration and Education and of the Public Health at Springfield.

What are you doing, Doctor, to counteract this pernicious influence and to conserve the welfare of the state?

WHY DOCTORS SHOULD NOT BE HEALTH OFFICERS.

Because —

1. It is obviously contrary to public policy, since medical revenues come from disease and not from health.

2. Schools of medical practice are many and various, and it is neither democratic nor fair to permit one school to control the practice of other schools.

3. The care of the person is purely a private affair and does not properly come within the purview of "the public health."

4. Therefore the relation between physician and patient, being a personal and private one, the individual is entitled to his choice of adviser.

5. The doctor cannot forget that he is a doctor, and when he becomes health officer, he proceeds to "doctor" the whole community.

6. The function of health officer is strictly a sanitary job, having relation to drainage, to sewage and garbage disposal, to water supply, to the ventilation and plumbing of buildings—in a word, to making the environment clean and wholesome. But these tasks are no more akin to the practice of medicine and surgery than they are to chiropody or the barber's trade.

7. The doctor as health officer is at best an amateur and theoretical sanitarian, his views colored by his medical training; and that causes him to neglect genuine sanitation, doctoring the polluted water supply with chemicals, and when turning to meddle with the persons of private citizens, invade homes, control the public schools, interfere between private practitioner and patient, and force medical treatment on sick and well.

8. The health officer keeps the record of deaths, and has it in his power if he is a doctor, to protect his medical brethren from blame, or any given practice of his sect from condemnation.

9. In this manner, deaths from malpractice are today regularly concealed. Deaths from surgical operation are put down to appendicitis, or whatever disease was operated for; deaths from antitoxin are put down to diphtheria; deaths from vaccination are almost invariably concealed under the title tetanus, meningitis, septicemia, or whatever form the blood poisoning takes in given cases. This deception keeps the public in the dark and, therefore, raises the death rate.

10. A doctor in the position of health officer is a state-paid agent and lobbyist for his fraternity, when the state has no more right to discriminate between medical systems than it has to show partiality in religions.

THE AMERICAN MEDICAL LIBERTY LEAGUE,
1104 Steinway Hall, 64 E. Van Buren St.,
Chicago, Ill.

LEAGUE PLATFORM

Medical liberty on the same basis as religious liberty and with the same constitutional guarantees.

FALLIBILITY OF THE WASSERMANN REACTION

"The Wassermann reaction is not infallible. In recent years the test has been subjected to much unfavorable criticism, and when the reason is sought it appears that the test is liable to error in either a positive or a negative way unless carefully performed with standardized reagents.

Wassermann would not be able to recognize today some of the procedures bearing his name. The original technique described by Wassermann was not entirely satisfactory, results were not always accurate, variable factors were not controlled, and the test was not diagnostic. A host of investigators have since been making honest efforts to remedy these errors and produce a workable and reliable test. The outcome thus far is ten or twelve principal modifications with a larger number of minor variations in use in the country. As a result, there has been a distinct advance in the delicacy of the test, but the many different methods evolved by different workers had led to a variation in the results with beginning loss of confidence in the reports. However, it should be said in passing that the more recent refinements in the Wassermann test have made it much more valuable as a diagnostic means.

Every day we are learning more of the irregularities in the test beyond our control. These used to be laid to the door of faulty technique; now we are discovering that the same individual will not give the same results in successive tests, and that certain diseases and conditions of non-syphilitic and normal persons will give a positive reaction.

As yet we do not know the underlying factors upon which the Wassermann reaction is based. Certain unknown substances (whether antibodies or immune substances) of unknown composition and unknown source are present in the blood stream of syphilitic patients in unknown amounts. These substances combine with lipoidal materials in such a way as to bind the complement present in the test. Wassermann originally thought them specific for *S. pallida*, but this was later disproved. One of the great difficulties in standardizing the test is to get two antigens exactly alike, that is, with the same amount of these lipoidal materials free from other interfering substances. Still further research is required to solve these vexing problems.

Although no standard technique has been devised, the careful technician is able so to adjust his reagents and control his procedures that his results are fairly comparable to the results obtained in other laboratories. In other words, it may be said that any one of the more well known Wassermann modifications is reliable so long as it is properly controlled.

The result of the test should always be interpreted in the light of clinical evidence, and under no circumstances should it be expected to supplant the physical examination in any way. In other words the test should be interpreted as a symptom, as an aid to diagnosis and a means of following the effect of treatment, and not a diagnosis.

A positive reaction does not necessarily indicate syphilitic infection. A small proportion of persons (some authors claim as high as 10 per cent) will give a partial reaction with cholesterinized antigen in the absence of any history or symptoms of syphilis. Certain diseases may give a strongly positive reaction. Chief among them are yaws, the tubercular type of leprosy, and the febrile stage of malarial infections; others that have been reported (but upon which authorities disagree) are tuberculosis, scarlet fever, diabetes mellitus and acidosis (evidence, however, is accumulating to prove that if the test is properly carried out these will give a negative reaction). Of late there has appeared in the literature accounts of still other conditions giving positive reactions, as typhoid fever, heat stroke, lobar pneumonia, gastroenteritis, asthma, acute enteritis, tubercular peritonitis, splenomegaly, and hyperthyroidism in women. It is possible and probable that some of these diseases will be found on future studies to give uniformly negative reactions. However, until this is fully proved, they must not be eliminated from consideration when a positive Wassermann test does not coincide with the history of the patient. In only very rare circumstances wholly normal persons are encountered in whom a positive reaction is obtained to which no reason can be ascribed. Bacterial growth in the sample of blood, particularly staphylococci, may cause a positive reaction. Sometimes also an anesthetic within 24 or 48 hours before drawing the blood will give a partial positive reaction.

Negative reactions can be expected in a small proportion of cases showing syphilitic lesions.

Craig gives the following approximate figures for the various stages of the disease:

Primary stage.....10% negative Wassermann
Secondary stage..... 5% negative Wassermann
Tertiary stage.....13% negative Wassermann
Latent stage.....30% negative Wassermann

These figures may be still further increased by other factors. The ingestion of alcohol by the patient within 24 hours before drawing the sample may bring a strongly positive serum down to a negative. Treatment of the patient for the disease will cause the disappearance of the reactions with some antigens. Cholesterinized antigen is extremely valuable for following treated cases, however, as it will give partial reactions after others are negative. When the test is made early in the disease the reaction is more apt to be negative or weak. Klauder gives the following figures for positive tests the number of days after the appearance of the chancre:

Duration of chancre	Positive Wassermann reaction
1-10 days	36%
10-20 days	64%
20-30 days	70%
30-40 days	100%
Over 40 days	100%

Usually if the history and symptoms are positively definite for syphilis, a positive Wassermann is not required for a diagnosis. If the Wassermann is returned negative and a positive reaction is desired, a test can be made later in the disease if it is an early case, or a provocative treatment can be given in latent stages.

Sometimes one laboratory will not confirm a test made by another laboratory at an earlier date, or even the same laboratory at an earlier date, or even the same laboratory will not confirm its own findings. Craig has shown that certain individuals have a marked variation in the amount of complement-binding substances in their blood serum from day to day, so that a test negative one day may be positive the next. In interpreting results from a series of tests this must be kept in mind. Also it must not be forgotten that a single negative indicates absence of the disease, as a short time later a positive test might be returned.

The partial reaction may be a source of mystery. In early cases it is diagnostic if the symptoms agree, for as shown above, a complete reaction can not be expected for some time after infection. In active stages of the disease the number of units of complement-fixing substance in the blood stream may vary so that one person will have a single unit and give only a partial reaction while another will have many units and give a very strong reaction. In latent cases the reaction is often partial and difficult to interpret, due to the same cause. In treated cases, the various degrees of reaction indicate the efficiency of the treatment.

In viewing the test from the standpoint of a therapeutic guide it might be well to consider whether or not we have not so far been giving the wrong interpretation to laboratory findings. Up to the present time we have been taught that a luetic should receive treatment with a view of making his blood negative and keeping it so. One of the recent refinements alluded to above, the so-called ice box method, in which fixation of complement is obtained by long exposure to ice box temperature, rather than incubation in the water bath has shown that in a much larger percentage of cases than was formerly believed a serological cure is not obtained.

Finally, in the light of our present day experience is it not proven (by frequent serum reactions in intensely treated cases) that serologic and clinical cure do not necessarily go hand in hand? Does it necessarily follow that because a case is Wassermann fast by some delicate test that the patient has living organisms in his body ready to resume activity at some later date? Should these reactions not be considered in many cases as analogous to the positive tuberculine response, which today we interpret as not meaning the presence of living tubercle bacilli in a patient who has recovered from tuberculosis? Since serologists are in doubt as to the exact reacting substance in luetic blood, might it not be considered analogous to the persistence to immune bodies of other types, as seen in late Widal reactions years after prophylactic typhoid inoculation or by the negative Schick test after diphtheria, or by the negative response to vaccine virus by a patient who has had smallpox?

FACETIOUS UNCLE SAM, THE INCOME TAX SCHEDULE AND THE DOCTORS' CHARITY

In the income tax schedule of the Internal Revenue Department, which the doctors of the country were asked to fill, were two narrow blank lines four inches long in which the doctor was told to enter the name and address of each organization to which he made charity contributions claimed as deductions, and amount paid to each. If filing of an income tax return is not a serious matter we would be tempted to think that Uncle Sam intended to be facetious when he formulated paragraph eleven of the schedule.

On a paper many times the size of the income tax sheet mentioned it would be impossible for any physician who had been in practice five years to give the name of the individuals and organizations and amount of charity which he contributed during the previous year. Our internal tax schedule places a premium on large contributions and only large contributions derived any benefit from this clause. This is not fair. We doubt if a single doctor in Illinois filed five per cent of the total amount he gave to charity during the year 1919.

The doctors of the country do more charity than all other agencies combined.

According to the *Medical Economist* of New York, April, 1916, one-fifth of one per cent (the medical profession) does 95 per cent of the charity work; 50 per cent of the profession of New York City find it difficult to meet their current expenses, economize as they may. (*New York State Jour. of Med.* Aug. 1915.)

In Chicago in 1907 an authentic survey showed that 25 per cent of the population received free medical treatment, while the average normal per cent of the population receiving charity other than medical was one-half of one per cent. The accuracy of this was vouched for by the Bureau of Charities and the Committee on Abuse of Medical Charity of the Chicago Medical Society.

The Chicago Bureau of Charities, 1907, is authority for the statement that in this city, having at that time a population of 2,000,000, the total amount of charity expended per year was \$2,500,000. This includes the amount spent by the city, county and private organizations of every name and nature. Contrast this with reliable data presented at the time showing that the

little band of physicians then numbering 3,000 were giving annually upwards of \$7,000,000 to charity, or three times as much as all other agencies combined.

The condition existing in 1907 has been augmented in the intervening years. Today the profession not only carries a greater portion of the general charity burden but as shown by Dr. M. L. Harris of Chicago, *J.A.M.A.* (March 6, 1920), the physician is now obliged to carry the burden of the Workmen's Compensation Act.

ILLINOIS LOANS MICHIGAN BATTERY OF SPEAKERS

The Michigan State Medical Society at its annual meeting at Kalamazoo in April has staged Compulsory Health Insurance as one of its chief numbers on the program, and has set aside one whole session for consideration of the subject.

The committee on civic and industrial relations of the Michigan State Medical Society asked Illinois to help fill the Program by sending a number of speakers familiar with the subject of Health Insurance. Illinois, always accommodating and willing to help a sister state in a dilemma secured the consent of Doctors E. H. Ochsner and George Apfelbach of Chicago and Dr. W. D. Chapman of Silvis, Illinois, to handle the negative phase of the subject.

Illinois suggested the name of Sir Francis Neilsen and Michigan is to be congratulated on having secured him as one of its star speakers on the negative side of the subject. Mr. Neilsen is a relative of the great Gladstone. He is a finished scholar and speaker, a student of political economy and a member of the Parliament when the Health Insurance Law was enacted in England.

Dr. Fred R. Green of Chicago will represent the Council on Health and Public Instruction of the A. M. A.

The affirmative of the subject will be taken care of by John B. Andrews, high priest and paid propagandist of this Bolsheviki theory; he will be assisted by John A. Lapp.

We have the utmost confidence in our Illinois representatives and we are willing to wager they will not come out second best in the debate.

Michigan is to be congratulated on having as its chairman of the Committee on Civic and In-

dustrial Relations a real live wire in the person of Dr. Geo. E. Frothingham of Detroit.

THREE BAD BILLS

WHY NOT EXTERMINATE THE PROFESSION AT
ONE GRAND SWOOP AND HAVE THE
AGONY OVER?

WHAT IS HAPPENING IN NEW YORK WILL NO
DOUBT BE ATTEMPTED SOON IN ILLINOIS

The New York Legislature has now under consideration three bills relating to the medical profession in this state, and three worse bills could hardly be conceived of. One of these is the revived Davenport bill for compulsory health insurance. It is unnecessary to review that, for the profession in this state is now familiar with its chief features and has condemned it with practical unanimity. It legalizes the worst features of the old lodge practice, and all that it insures is, in general, poorer treatment of the sick wage earner than is now at his command with or without fee.

The second of these vicious bills is that known as the Gibbs bill, which purports to provide a greater degree of narcotic drug control than is now afforded by the national and state drug laws. An ordinary man's house is his castle and cannot be broken into without a warrant except in an emergency, to prevent crime or to capture a criminal, but under this bill a doctor's house can be entered at will by the commissioner of narcotic drug control who may, if he wishes, delegate this task to one of his deputies or inspectors. And when the house has been forcibly entered the inspector may pry into every bureau drawer or private desk on the bare suspicion that a morphin tablet may be lying around somewhere.

The third attempted invasion of the physician's rights is provided for in the Kenyon medical license bill, which calls for annual licensing after examination of the doctor's credentials, filing of his photograph and payment of a \$2 fee. Without all this vexatious and humiliating tomfoolery the practitioner of twenty or thirty years' standing will be denied his right to follow his calling and will be put on an equality with the advertising venereal quack, or the unlicensed beauty doctor.

With the physician being forbidden to prescribe

a necessary drug until he has done enough paper work to gladden the heart of an army surgeon, and broken the law by revealing professional secrets; being restricted to the dose of an ounce and a half of brandy a day in a case of prolonged sepsis or pneumonia; being liable to the invasion of his house by a drug commissioner's deputy who may without reason suspect him of hoarding morphin; and being forced to buy each year the privilege earned decades ago of practicing his one-time honorable profession, the doctor's rights to life, liberty and the pursuit of happiness seem to be not altogether inalienable.—*Medical Record*, March 10, 1920.

NEW YORK AND NEW JERSEY PHYSICIANS, DENTISTS AND DRUGGISTS ORGANIZE PROFESSIONAL GUILD TO WAGE DEFENSIVE FIGHT AGAINST COMPULSORY HEALTH INSURANCE

Back of the Health Insurance legislation, which is to be introduced for enactment into law, into all State legislative bodies of the country, in the next three months, is said to be powerful influence, money and prestige. This statement, made by two speakers at a mass meeting of physicians, dentists and druggists called December 4th in the New York College of Pharmacy, for the purpose of organizing a professional guild to combat this class of legislation, re-acted like a bombshell filled with T. N. T. on the three professions represented at the conference.

With powerful interests supplying the brains, the funds and the propelling force to push and force through this paternalistic legislation, which will make heavy inroads into the revenues of all three professions, speakers addressing the meeting, declared it was a life and death struggle, to defeat which the professions must unite and utilize every agency at their disposal as a combative force.

Unless this is done, the speakers stated, the interests favoring the legislation would win and the physician, dentist and druggist lose his individual standing in the community to become part of a machine, with a Damocletian sword hanging constantly over his head.

As a corollary of the Health Insurance Bill, Dr. J. A. O'Reilly, chairman of the Professional

Guild of Kings County, New York—one of the first of the Professional Guilds of physicians, dentists and druggists organized in New York State—told the conference the backers of Health Insurance intend to introduce a Medical Practices Act, requiring physicians to register with the State each year.

"If this act becomes a law," said Dr. O'Reilly, "any physician who refuses to join the Health Insurance panel and agree to give his professional service to employees insured under the act at the nominal charge fixed by the panel, would be in danger of losing his license."

"The physician's license to practice medicine," declared Dr. O'Reilly, "is a discretionary privilege granted by the State, and is not an inherent, inalienable property right of the physician—what the State gives, it may take away."

Refusal to tender his service to the Health Insurance Panel, the Doctor believed, would inevitably lead to the State's refusal in turn to renew the license of the offending physician when he applied for re-registration.

Proof that this is the plan which the designers of the Medical Practices Act have in mind, was supplied him recently, said Dr. O'Reilly, when State Senator Loring Brown informed him that any physician, dentist or druggist who refused to make the Health Insurance law operative, when enacted, would have his license to practice his profession in the State taken away from him.

"In other words," explained the Doctor, "we are to be destroyed unless our three professions supinely surrender our manhood and our right to the living to which we have consecrated our lives. While it may be true that our right to a license is alienable and that the state, out of pique, may take it away from us, the fact remains that our economic right is the same as that of any other citizen. Economically the right of the physician, dentist and druggist is no different from that of the longshoreman. If you cut down the wages of the longshoreman, he has the right to protect himself—our right is precisely the same.

"The Davenport-Donahue Bill, which the proponents of Compulsory Health Insurance sponsor, generously provides that we may appeal, if the fee fixed by the panel is, in our judgment, unfair. This is a joke. To make an appeal, we must print the record of the case, the cost of

which would be many times the maximum sum we might claim for our service. In other words, the very thought of an appeal is prohibitory, and we must accept what is allotted us or leave it—we are the victims and only God can help us.

"As soon as this law is enacted, some political doctor, who in skill, technique and all round knowledge would not be fit to wash the instruments of a real doctor, will be placed in charge of the district panel. This political doctor at the head of the panel, will fix the fees of every practitioner in his neighborhood in every insurance case in which he may be called to give his service; also the fees of the dentist and druggist. *The incompetents will thus pass on the incompetents.*

"Of course the politicians favor the plan, because it makes available thousands of new jobs for their satellites, at *our expense*. The State may do what it wants to do with its own money, but it has no moral right to be generous with our money, and that is exactly what it proposes by this legislation.

"To-day the statistics show that out of every dollar a man earns, 7½¢ is the cost of maintaining human health; we maintain that the State has no right to say that in future, through the operation of a Health Insurance act, it must have this same service for 2½¢, any more than it has a right to say to other men that in future they must sell for 33¢ what they now sell for \$1. Back of this whole bill is money, a false altruism, conceived in Germany and imported as a rich man's sop to the forces of unrest."

Dr. William T. Anderson, Dean of the Brooklyn College of Pharmacy, followed and urged that New York County and other cities throughout the country immediately organize a professional Guild of physicians, dentists and druggists, similar to the Kings County Guild.

The Kings County Guild now combines 4,000 physicians, dentists and druggists, and has the endorsement of 20 professional and scientific societies representing the three professions in that county.

During the last campaign, the guild appointed working committees in each assembly district, composed of 2 physicians, 2 druggists and 1 dentist. This committee called on each candidate for the State Assembly and State Senate

to ascertain his views on Health Insurance and ask for a pledge to vote against any bill providing for compulsory Health Insurance. Against those who expressed their intention to vote for such legislation, the guild waged a bitter fight, carried on under what was probably the most unique conditions under which a political campaign in this country has ever been waged.

Supplementing the regulation stump speaking practice, characteristic of all campaigns, the professions carried the fight into the very sick room. The doctor over the sick bed of his patient, in the confidential relation of health minister in the home, the dentist working over his patient in the chair and the druggist talking to his customers in his store, urged the defeat of those who admitted their intention to support Health Insurance.

Under this silent, overpowering, soft pedal professional propaganda, ten hostile candidates went down to defeat and ten candidates pledged to oppose Health Insurance were elected in their place.

In the political history of America, no parallel for this novel campaign and demonstration of the professional man's power and influence with his patient, when put to the test, has ever been so conclusively established.

What has been done once can be done again. By capitalizing his strong personal influence with his patients and customers in this way, speakers stated that the physician, dentist and druggist have the opportunity to weld into a concrete force the greatest power possessed by any body of men in any community and can defeat the legislation proposed.

With women now a voting factor in each community, the doctor and the dentist have a powerful ally in every home. The doctor is the woman's friend, counselor and helper in trouble. He has brought her babies into the world, has protected and guarded them for her in sickness and been the saving grace between life and death for all those she loves—a vote to please and help him is asking little—of course he can have it. With the vote of the mother of the house—in many instances—he can have the vote of the man too.

Those present at the meeting agreed to use this influence, and following a number of stirring addresses by other physicians, dentists and druggists, a guild was formally organized for

New York County, with physicians as chairman and vice-chairman, a dentist as treasurer and a druggist as secretary. Announcement was made that similar professional guilds had been organized in other cities of the State and that a preliminary meeting attended by Dr. Dickenson, President of the New Jersey State Medical Association, had been held with a view to similar organizations in New Jersey.

As part of the plan to enlist the support of their patients in the effort to bring pressure to bear upon legislators favorable to Compulsory Health Insurance, the Professional Guild of Kings County has prepared a letter which its physician members are to send to all of their patients which is most unusual in character. With this letter will be enclosed a letter which the patient is requested to sign, with the names of all members of her family who approve of it.

From New York and New Jersey the plan for a nation wide establishment of professional guilds will be extended until every State in the Union is represented. *Here we have a brand new force in American politics.*

With the opening of the State legislatures this month the fight starts. To date, the professions have defeated this legislation for three years. For the fourth time the wealthy interests seeking its enactment are now ready to come forward again, this time with increased strength, more money and more powerful agencies than ever behind it.

Free doctors, free medicines, free maternity benefits and free funerals look good to the proletariat, and such legislation it is believed will help solve its state of unrest. It is Bismarck's old formula to keep the socialists from getting too belligerent and disturbing the crown, revamped to meet American conditions.

The fact that employers of labor must pay the bills, as an additional tax, beyond all other taxes they now have to pay—with which all this free stuff will be provided—counts nothing. *It's a bone for the restless and they must have it.*

If you have to help pay the bill in medicines and surgical supplies sold at approximate cost—that's your fault. If you want to escape it—*change your business.* If you want to stay in the business, this is the time to fight for it or forever keep your peace.—JERRY MCQUADE, in *Drug Topics.*

PHYSICIANS CARRY THE BURDEN OF THE WORKMEN'S COMPENSA- TION ACTS.

Dr. M. L. Harris of Chicago, in the March 6, 1920, issue of the *Journal, A. M. A.*, reviews the history of the Workmen's Compensation Legislation in the United States, and shows that the most obnoxious law in any state was enacted in the State of Washington. He summarizes the situation as follows:

It seems that in the state of Washington it was thought that the physician owed it to the state to work for nothing, and was encouraged to do it under a penalty of ninety days in the county jail or a fine of \$250. If the physician is only meek and lowly enough he will soon have sufficient duties and obligations thrust on him by the state so that he will eventually be able to work his way into the state poorhouse. Such an absurd law as the Washington workmen's compensation act of 1911 never could have passed had the physicians been alert to their own welfare. It took some years to change that law so that the medical profession was given some consideration.

PRINCIPLE UNDERLYING WORKMEN'S COM- PENSATION LAWS

While no other state has passed such a shameful workmen's compensation law as the Washington act of 1911, in the majority of the states the physician under workmen's compensation acts is meekly performing "the duty which he owes to the state" by caring for injured workmen for nothing. The fundamental principle underlying workmen's compensation acts is that the industry should bear as part of the cost of production the expense incident to injuries to workmen arising out of and in the course of their employment. In other words, the workman is to be looked on as a part of the general machinery of the industry, and, like any other piece of machinery when injured, he should be repaired if possible, the cost of the repairs to be charged to general operating expense. The only difference between the human machine—the workman—and the inhuman machine is that the human machine loses his earning power while laid up during repairs, but must live at an expense to himself; hence he is allowed as part compensation a certain percentage of the wages he was earning when injured to tide him over until he is again able to earn as before; or in case he is permanently incapacitated, until a predetermined amount has been paid to him.

It will be granted that the principle underlying workmen's compensation laws is sound. All state legislative bodies in enacting such laws recognize the principle that the burden of caring for accidental injuries to workmen arising out of and in the course of their employment is a legitimate expense of the industry chargeable to production. Such being the case, why is it that the majority of the workmen's compensation acts, which are based on the principle

just announced, deliberately take a large part of the burden off the industry or the employer, and put it on the medical profession? Why should the medical profession, which has nothing to do with production, be compelled by law to assume a large part of the expense of caring for injured workmen, which expense, the same law announces on principle, should be borne by the industry or the employer? If the principle is correct, then the employer should pay all the expense and not a part of it while the physician pays the balance. How is it that the physician is obliged to assume without remuneration a large part of the expense of caring for injured workmen under workmen's compensation acts?

HOW IT WORKS OUT

In defining the amount and terms of the compensation to be paid, the acts state that the injured workmen shall receive medical and surgical care, including drugs, medicines and surgical appliances, hospital care and nursing, however, not to exceed \$100, or \$200, as some states have it. Any intelligent person knows that \$100 or even \$200 will not pay hospital and nursing bills and the expense of drugs, medicines and surgical dressings and appliances, and leave anything for the physician in a serious injury requiring one or more surgical operations and several weeks' careful attention. What happens is something like this:

A workman is injured, and a physician is called and told to do everything he can for the patient. It is necessary to have him removed to a hospital, and perhaps a serious operation must be performed, such as an amputation of a leg or, what even is more difficult, the repair of a bad compound fracture with the necessary subsequent care, etc. The hospital has its bills paid weekly, and after a time the physician sends in a bill, possibly, on account. He shortly receives a letter from the employer, who seems quite grieved to think that he should be sent a bill, for he has already paid the bills at the hospital, amounting to so and so much, which of course he thought included medical and surgical services. When informed to the contrary, he comes back with the statement that he has already paid all that the law requires, namely, \$100 or \$200, as the case may be, and has therefore, discharged his liability and that the physician will have to look to the injured person for his bill. As the man is out of employment for many weeks or months on account of his injury, as the cash compensation which he received was barely sufficient to keep his family in food while he was laid up; as he is back in house rent and other necessary living expenses, and as he was working under the compensation act which he supposed paid for medical care when injured, the physician is left, as is said in the vernacular, "to hold the bag."

Another way in which some of these cases work out is this: A man is injured and the physician is called as before. When the bill is sent to the employer the physician is informed that the employer is insured in the X Y Z accident insurance company, to which

the physician is referred. The insurance company asks the physician kindly to fill out numerous blanks giving all the details of the accident, the character and extent of the injuries, the duration of the disability, if any, etc., and when it has obtained all the free information it desires out of the physician it breaks the news to him that it has already paid hospital bills, etc., to the extent required by law and that it has no further liability in the case. Or if the insurance company cannot hide behind that technicality, it asks the physician for the amount of his bill so as to have it on record, and then informs the physician that the rules of the home office require that all doctors' bills be fully itemized, and that it will be necessary for him to itemize his bill, setting forth the exact charge made for first aid and for every subsequent attention and exactly what was done each time. When this is done the reply comes back that the company allows only so much for first aid, so much for this operation and that, and so much for subsequent care, etc., which fees are about 30 per cent of what they should be for the work actually done, and the physician may accept that or not as he likes.

NEED OF COOPERATION BY PHYSICIANS TO SECURE JUSTICE

These are merely some of the ways physicians are carrying, without remuneration, a large part of the burden of workmen's compensation acts which should fall on the industries. And they will be obliged to submit to this imposition and to carry this burden, and others which seem imminent in the way of compulsory health insurance acts, unless they wake up and are willing to cooperate to secure common justice.

REPLY TO THE LITERARY DIGEST — A SCATHING DENUNCIATION OF ITS ATTITUDE TOWARDS MEDICAL PRACTICE.

(1) "Unless he is in public service, or in the employ of some industry, or holds hospital-staff position, or is a specialist with established associations he is having hard sledding to make a living. (2) Good authorities assert that the average income of doctors, little and big, is about \$750 a year. I have no way of proving the figure to be correct or incorrect. (3) This is true, however; a doctor in general practice, who might have been a good carpenter, bricklayer, butcher, or blacksmith, would have been financially better off, had he been content to stay in the working class of physical labor."

(1) The first assertion is absolutely true, as the whole profession is compelled to compete with government-paid employes in health, narcotic officers, and lately, venereal disease officers, who have the advantage of the law in enforcing regulations, free drugs as an inducement to draw patients, and lengthy reports for the private physician to fill out which, in the end, discourage him to handle such cases. What is true in regard to venereal diseases, is more especially true in

regard to handling addicts of narcotics, with the added pressure, perhaps, of a misunderstanding which will damage the professional character of the private physician. In both instances the government has the addresses of the doctor's private patients, a condition which is not allowed for one moment in business; interlocking directorates, etc., or the list of customers of one firm to be given another.

The government issues bulletins, likewise the state boards of health, telling the public the nature, causes, and how to treat diseases. If the physician's advice is not in accord with such treatments, a doubt is at least created in the mind of the patient. Thus the government becomes a competitor in all medical cases, and even in surgery in the Marine Hospitals, Army and Navy. During the World War the government entered upon the building of ships at the rate of 10 per cent. plus cost of product; from the hue and cry in the commercial world we learn the same kind of disaster to private enterprise. The building of homes along similar lines by the government has met the same opposition. But for the physician to demand a basis of fair competition is simply awful!

In treating venereal diseases the government does not want the private physician to give the patient any medicine at all, as the officers do in venereal clinics. What business would stand such injustice?

In regard to staff positions in hospitals and associations with renowned specialists, evidently the editor of the *Literary Digest* has never read the numerous advertisements in the *J. A. M. A.* of positions which carried the reward of an ordinary stenographer, and not as much as a first-class cook (\$100 to \$150 per month for men who are required to be university and medical graduates of first-class institutions).

It is not only the commercial world that objects to government enterprises in competition with private undertakings, but also the labor world, which objects to competition with free convict labor. But bringing the matter a little bit more closer to home for the benefit of the editor of the *Literary Digest*, did we understand correctly the wail of the lay press when the government began issuing its free news bulletins about the war, army activities, etc.? Did not the press find a tendency to socialism, bolshevism, the horror of competition with the privately owned journals? Do you think the average editor could earn the doctor's fee of \$750 annually if the government ran newspapers free of charge and delivered them in competition with the privately owned press? If this came to pass, would you say the average editor "who might have been a good carpenter, bricklayer, butcher, or blacksmith, would have been financially better off had he been content to stay in the working class of physical labor," or would the genius of the independent scribe be so great that people would naturally pay for his news rather than accept it for nothing, although given quicker and with government precision and guaranteed accuracy? Would you advise every editor to become a government scribe at \$150 per month, or the doctor's government wage which is less than all callings, in

comparison to will and brain work to acquire same. No, you would make the ink red on every page, with type of the largest size, that "private initiative had been destroyed, incentive to compete in ability had been abolished, and a paternal government was being established." You would organize a union and strike.

Now, brother, what is "sauce for the goose should also be for the gander." The doctor has been worked long enough by the system of taking care of the victims of economic competition, the so-called "Charity Hospital System," which is a symbol of economic stupidity and an injustice and detriment to the medical profession. We want the laborer to be paid a wage sufficient for him to have a margin enough, after paying for necessities, to be able to pay the doctor, charity institutions to be compelled to be reserved for those unable to pay and physicians connected therewith to be paid by the state for services rendered to the state, and not to institutions in competition with private undertakings. That is, if our system of economics is to continue. We object to this partial socialization of medicine and competition in the same manner as other enterprises, including the press. If medicine is to be socialized, so should be all other callings and commercial enterprises. We are perfectly willing to accept the same condition—we want a square deal!

In your scheme for socialization for medicine only, of course, you state that "public health servants (an accurate term), should be well paid, just as teachers ordinarily are well paid" (salary usually \$75 to \$125 per month). I must confess that your consideration is extremely generous. It requires about sixteen years' schooling after leaving the grammar grades and an expense of about \$20,000 to fit you to receive the present government position or hospital staff position at \$150 per month, or about a lifetime of service to get back money spent on schooling alone. No doubt there will be a rush to become doctors in the future. I am afraid the school teachers will stop joining the American Federation of Labor to force proper remuneration, after they have learned from you that they are well paid, or perhaps they, like the doctor, have all taken up the wrong calling. Perhaps your advice will be beneficial to the doctor and he too, like his brothers in Europe, will follow the footsteps of the American school teacher, and join the American Federation of Labor, or compel his county societies to give him his just economic demands. Do not fret, brother, necessity will compel him to do one or the other. Either our medical society "leaders," who have not even the pleasure of direct selection, are going to give us economic justice or we will organize medical economic clubs and hereafter make the laws for the benefit of the profession instead of our "leaders" and for the benefit of corporations, working for their free clinics, either free or on starvation wages. The modern physician understands that this kind of philanthropy is the greatest foe to liberty, and destroyer of character. Millions of dollars are taken out of the pockets of the physician for honest services rendered, in order to save the employer the expense of paying his labor a just wage.

We are going to see that this thing stops. Pay your labor enough so he will have a margin to pay his physician, after other necessities have been met. At present, various corporations, insurance companies and medical partnerships are trying to give us a socialization, beneficial to their pocketbooks. We want the minimum wage and social insurance to cover his sickness and injuries so the patient can have money enough to employ any physician he desires. This question will come before eight legislatures and it is well for the general practitioner to keep his eyes open.

We have had millions for charitable institutions, but how many cents for economic justice? The church will soon cease to adhere to the patrician idea; the rich doling dribbles of their surplus to the poor. Her terrific loss in membership will disable her to the extent that she will be unable to graft upon the medical profession any longer. Her injunction upon the poor, of a mood of gratefulness toward the benevolent feudalism of the day, "that they may increase and multiply their mercies upon us," has disgusted the intelligent christianity of the world.

I regret that our brother did not tell us how we were going to get rich off our patients, of whom the majority belong to the working class, when four-fifths of the wage earners of America receive a yearly salary of \$750. Reports from the Bureau of Commerce of New York show it requires at least \$844 yearly decently for a family of five, giving the necessities of life. The present-day labor problem constitutes the greatest problem in the history of the world. Unless the men of the nation and of the world intelligently face this problem, the greatest tragedy in the world's history is due. Unless the system is changed, the poor will become poorer; the two per cent. of the population who now possess over 60 per cent. of the national wealth, whose wealth is rapidly increasing, according to the income statistics, will own the whole country. Then what?—George H. Tichener, Jr., *Charlotte Medical Journal*.

FEE TABLE ADOPTED BY THE CHICAGO MEDICAL SOCIETY.

This fee table is intended as a guide to members in making charges for their services. It is obvious that no hard and fast rules can be made in this matter, because the range of the amounts of fees for medical and surgical services should have reference to the degree of responsibility assumed, and to the time consumed.

Day visit in city where less than one mile is traveled.....	\$ 3.00 to	\$ 15.00
Day visit in city where more than one mile is traveled.....	5.00 to	25.00
Visit in city when called after 8 P. M. or before 8 A. M.....	5.00 to	30.00
Visit in city requiring sacrifice of office hours.....	10.00 to	30.00
Visit in city in consultation with another physician.....	10.00 to	100.00

Visit to distant patients, in addition to all expense, per hour.....	10.00 to	25.00	Amputations—		
Administration of antitoxin or other hypodermic medication in addition to usual fee.....	5.00 to	50.00	Finger or toe.....	50.00 to	200.00
Consultation or advice over telephone	1.00 to	10.00	Hand, forearm, foot or ankle....	100.00 to	500.00
Office consultation—ordinary—not involving complete physical examination	2.00 to	5.00	Arm or leg.....	150.00 to	600.00
Office consultation, including complete physical examination.....	10.00 to	50.00	Shoulder joint or thigh.....	200.00 to	1,000.00
Office treatment requiring use of instruments, topical applications to eye, ear, nose, throat, urethra, bladder, vagina, rectum, abscesses; redressing of wounds, use of electricity, readjustment of splints, etc.....	5.00 to	25.00	Shoulder, clavicle and scapula or hip joint.....	500.00 to	5,000.00
Examination for life insurance....	5.00 to	10.00	Breast	250.00 to	5,000.00
Vaccination in office.....	3.00 to	5.00	Penis	200.00 to	2,000.00
Spinal puncture (in addition to usual fee).....	10.00 to	100.00	Compound Fractures or Dislocations—		
Intravenous medication.....	10.00 to	100.00	Same fee as for amputation at corresponding location.		
Intraspinal medication.....	100.00 to	1,000.00	Open Operation for Fractures or Dislocations—		
Written opinion or advice.....	10.00 to	50.00	Double the fee for amputation at corresponding location.		
Examination for purpose of legal evidence	25.00 to	200.00	Operations Upon Bones for Inflammation, Suppuration, Necrosis, etc.—		
Autopsy	100.00 to	500.00	Double the fee as for amputation at corresponding location.		
Attendance at court as expert witness	50.00 to	500.00	Hernia—		
Attendance on normal labor or accidental abortion.....	50.00 to	500.00	Reduction of strangulated.....	50.00 to	300.00
Forceps delivery, version, placenta previa or craniotomy.....	100.00 to	1,000.00	Emergency operation for strangulated hernia.....	300.00 to	2,500.00
Induction of premature labor.....	100.00 to	1,000.00	Operation for simple hernia.....	200.00 to	1,000.00
Cesarian section.....	200.00 to	5,000.00	Polypi of nose, ear, cervix uteri, or rectum.....	100.00 to	300.00
Fitting of trusses, braces, splints, supports, etc.....	25.00 to	200.00	Rectal or anal operations for fissure, fistula, stricture, abscess, hæmorrhoids, etc.....	200.00 to	1,000.00
Simple Fractures (reduction and first dressing)—			Operation on kidney.....	300.00 to	5,000.00
Phalanges, metacarpals, metatarsals, ribs, etc.....	50.00 to	200.00	Cystotomy or litholpaxy.....	250.00 to	2,000.00
Fractures involving wrist or forearm	75.00 to	300.00	Plastic operation upon urethra or bladder	250.00 to	2,000.00
Fractures involving elbow, arm or clavicle.....	100.00 to	1,000.00	Operation upon the foreskin.....	50.00 to	250.00
Fractures involving ankle, leg or patella	100.00 to	1,000.00	Urethrotomy or dilatation of tight urethral stricture.....	100.00 to	500.00
Fractures involving thigh or knee joint	200.00 to	1,000.00	Operation for radical cure of hydrocele or varicocele, or castration	100.00 to	1,000.00
Fractures involving pelvis, spine or skull.....	300.00 to	1,000.00	Aspiration of thorax, pericardium, abdomen, bladder or scrotum..	100.00 to	500.00
Fractures involving bones of face	100.00 to	1,000.00	Prostatectomy	300.00 to	5,000.00
Simple Dislocation (reduction and first dressing)—			Operation upon thoracic cavity....	250.00 to	2,000.00
Finger or toe.....	25.00 to	100.00	Operation within abdomen or pelvis not requiring resection or opening viscera.....	100.00 to	5,000.00
Clavicle or mandible.....	50.00 to	200.00	Operation within abdomen or pelvis requiring resection or artificially joining viscera.....	500.00 to	10,000.00
Larger joints.....	100.00 to	500.00	Operation upon cervix uteri, vagina or perineum.....	200.00 to	2,000.00
			Operation for clubfoot, knock knee, bow legs, ankylosis, mal-union or boneset, etc.....	200.00 to	2,000.00
			Operation upon skull for fracture, tumor, abscess, etc.....	300.00 to	3,000.00

Operation upon spinal column or spinal cord.....	300.00 to	3,000.00
Operation upon thyroid gland.....	300.00 to	3,000.00
Operation for transfusion of blood.	200.00 to	5,000.00
Operation for removal of cataract.	200.00 to	1,000.00
Operation for removal of eyeball..	100.00 to	500.00
Operation for removal of foreign body within eye.....	100.00 to	500.00
Operation upon muscles of eye, sclera or iris.....	100.00 to	500.00
Operation within middle ear or upon mastoid process.....	200.00 to	5,000.00
Excision of tongue or larynx.....	200.00 to	2,000.00
Intubation of larynx.....	50.00 to	500.00
Tracheotomy	100.00 to	1,000.00
Tonsillectomy, adenectomy, etc....	50.00 to	500.00
Operations upon nasal septum, antrum or nasal accessory sinuses	150.00 to	1,000.00
Plastic operation for correction of eversions, inversions, adhesions or defects of eyelids, mouth, lips, palate, external ear, or cicatricial contractions about face, neck, trunk or extremities	200.00 to	2,000.00
neck, trunk or extremities.....	200.00 to	2,000.00
Operation upon nerve trunks, veins or large arteries.....	200.00 to	2,000.00
Extirpation of simple benign superficial tumors.....	50.00 to	200.00
Extirpation of malignant superficial tumors.....	200.00 to	2,000.00
Operation upon parotid gland, deep cervical, axillary or inguinal lymphatic glands.....	200.00 to	1,000.00
X-Ray Examinations—		
Hand, foot, wrist or ankle (in one plane).....	5.00 to	10.00
Hand, foot, wrist or ankle (in two planes).....	8.00 to	15.00
Knee, elbow, shoulder or hip (in one plane).....	10.00 to	25.00
Knee, elbow, shoulder or hip (in two planes).....	15.00 to	50.00
Head, spine, pelvis or thorax (in one plane)	15.00 to	100.00
Head, spine, pelvis or thorax (in two planes).....	25.00 to	100.00
Stereoscopic examinations, double fee of single plane examinations.		
Urinary tract or gall bladder....	25.00 to	100.00
Gastro-intestinal tract.....	25.00 to	200.00
Teeth—entire set.....	10.00 to	50.00
X-Ray or Radium Treatments—		
Same as surgical fee for the same condition, lesion or disease.		

Public Health

TYPHOID FEVER AT BLOOMINGTON.

The City of Bloomington has recently experienced an epidemic of water-borne disease consisting of several hundred cases of diarrhoea and one hundred thirty or more of typhoid fever, with about fifteen deaths. The Division of Sanitation and Engineering of the State Department of Public Health, conducted an investigation and found that the epidemic was due to cross connections between the city water supplies and a dangerously polluted industrial water supply, a source to which other serious epidemics in the past in Illinois have been attributed.

Owing to the shortage of city water at Bloomington, resulting mainly from having to supply the City of Normal with water, the Chicago & Alton Railroad shops at Bloomington were requested to use as little city water as possible. On this account the railroad company began pumping a mixture of creek water and city sewage into its industrial supply. The mains carrying this filthy water were connected with the drinking water main carrying pure city water in one of the shops and the two supplies were separated by a single gate valve. A normal pressure of sixty pounds was maintained on the city supply and a pressure of from one hundred twenty to one hundred eighty pounds was maintained on the railroad supply, thus tending to cause the polluted water to be forced into the city pipes. After working hours the difference of pressure was even greater, since the city water was shut off by means of the valve at the meter, and leaky fixtures permitted the pressure to drop to zero.

Following the outbreak, the connection between the two supplies was broken and the valve was found to be leaking badly.

It will be recalled that a serious typhoid fever epidemic at Elgin was caused by the use of a dual water system, one for drinking purposes and the other for industrial purposes, the industrial for fire purposes, the two systems being connected for emergency use and operated only by a single valve.

CO-ORDINATION OF PUBLIC HEALTH NURSING SERVICE.

In accordance with an agreement between the American Red Cross, the National Tuberculosis Association and the National Conference of State Health Authorities, relative to the co-ordination of public health nursing service, there is now under consideration a working agreement to govern public nursing service in Illinois between the State Department of Public Health, the Central Division of the American Red Cross and the Illinois Tuberculosis Association.

The details of co-ordination of this nursing service are not yet determined, but in the meantime the Division of Child Welfare and Public Health Nursing of the State Department of Public Health is collecting complete data in regard to the nursing service already

established throughout Illinois and relative to the communities in which such public health nursing service is urgently needed.

HEALTH PROMOTION WEEK.

The State Department of Public Health is engaged in preparing material and outlining programs for the observance of Health Promotion Week, May 9th to 15th, designated by a joint resolution of the House and Senate of the Fifty-first General Assembly, to be devoted to the promotion of health and the prevention of disease during the years 1919-1920.

In 1919 the State Department of Public Health, in conjunction with a large number of extra-governmental health organizations and with the special co-operation of the Illinois Tuberculosis Association, created a large special staff and devoted many weeks of time and considerable sums of money toward Health Week activities. This year the department will organize an advisory staff, drawn largely from its several divisions, this staff assisting local committees in the proper observance of the week.

While all forms of health activities will be encouraged and carried out, the department is urging that special stress be placed on various phases of school health activities and on child welfare.

On Sunday, May 9th, it is suggested that health talks be given in every church in the state. Monday will be observed as "Clean Up" day on which local authorities and citizens will unite to put their communities in the best sanitary condition. Fly and mosquito extermination, with the removal of breeding places for flies and mosquitoes, will be in order on Tuesday, while Wednesday, known as "Better Babies Day," will be devoted to better babies conferences, to the weighing and measuring of children, and to other child welfare activities.

Thursday will be known as "Medical Examination Day," and on this day the medical profession is urged to co-operate with the local health organizations and with the public, in encouraging the largest possible number of physical examinations of adults and children. Friday will be devoted to school exercises, to the preparation and reading of essays and compositions on health subjects, and the week will close on Saturday with health pageants and athletic events.

In a large number of communities which observed Health Promotion Week last year, there is a decided disposition to undertake the observance on a larger scale this year.

CORRESPONDENCE COURSE ON TUBERCULOSIS.

The Division of Tuberculosis of the State Department of Public Health and the Illinois Tuberculosis Association, have prepared a series of lessons on tuberculosis for use by tuberculous patients in institutions and in their homes, nurses, social workers, school teachers and students. The series or course of lessons will number about twenty, each lesson being accom-

panied by an outline of suggested reading. Each series of lessons will also be accompanied by the circular on the "Cause, Prevention and Cure of Tuberculosis," issued by the State Department of Public Health, which will be used as a basis for the course.

These lesson outlines will be furnished in reasonable number without charge to any interested persons residing in Illinois, on application to the State Department of Public Health, and all correspondence relative to the course will be answered, if addressed either to the State Department of Public Health or to the Illinois Tuberculosis Association, at Springfield, Illinois.

This course of lessons includes not only the essential facts in regard to the cause, prevention and cure of the disease, and the methods to be followed in home treatment, but also covers the history, biography and literature associated with the disease. According to the published announcement, the series is "for the purpose of placing in the hands of tuberculous patients, nurses, social workers, school teachers and students the accepted information in regard to this disease, in a form which will stimulate more extended study." The project is undertaken in recognition of the fact that education of the tuberculous patient is almost as important as any form of treatment.

ACTIVITIES OF THE DIVISION OF SOCIAL HYGIENE.

The Division of Social Hygiene of the State Department of Public Health has concluded an agreement with the Board of Supervisors of Lake county, whereby a venereal disease clinic will be established at Waukegan. The Board of Supervisors in Rock Island county has appointed a committee to consider plans for the establishment of a venereal disease detention hospital in connection with the venereal disease clinic operated at Rock Island.

During the month of February, representatives of the Division of Social Hygiene delivered fifty-nine lectures before lay audiences in various parts of the state, reaching a total of 7,700 people.

PHYSICIANS WHO SERVED THE GOVERNMENT DURING THE WAR, TAKE NOTICE.

To all physicians who served the Federal Government during the war:

An association of Medical Veterans of the World War was organized at Atlantic City, in June, 1919, at the time of the meeting of the American Medical Association, and a constitution and by-laws adopted. About 2,800 physicians have already joined and all others who are eligible are invited to join the society.

The Constitution states that "The Dominant Purpose of this Association Shall Be Patriotic Service. The objects of this association shall be: To prepare and preserve historical data concerning the medical history of the war; to cement the bonds of friendship

formed in the service; to perpetuate the memory of our medical comrades who made the supreme sacrifice in this war; to provide opportunity for social intercourse and mutual improvement among its members; to do all in our power to make effective in civil life the medical lessons of the war, both for the betterment of the public health and in order that preparedness of the medical profession for possible war may be assured."

The organization of the society provides for state and local organizations wherever the members desire it, and in some states, such as Wisconsin, organization has already been effected.

It is desired by the national association that those who are already members meet together in larger and smaller groups, at the first convenient opportunity, and effect a local organization with a chairman and secretary, and also at the next meeting of the state medical society that a place be provided on the program for the Medical Veterans.

The organization of the society is based on democratic principles and it is hoped that the members who have already joined will take the initiative and organize their own state and local societies.

The national organization will assist by furnishing application blanks and copies of the constitution and by-laws, and, if desired, stationery.

The first things to be done after the organization of a state society is effected is to elect a councillor to the general council of the organization, to represent the state society at the next annual meeting of the Veterans at New Orleans on the first day of the meeting of the American Medical Association, April 26, 1920.

A badge or button for members of the society is being made and will soon be ready for distribution.

Address communications to the secretary, Medical Veterans of the World War, Army Medical School, Washington, D. C.

F. F. RUSSELL,
Secretary.

UNCLE SAM DOUBLECROSSES BOTH THE PUBLIC AND THE MEDICAL PROFESSION.

THE JOKER IN THE HARRISON NARCOTIC LAW.

Section 6 of the Harrison law contains a joker—put over by the "patent medicine" interests—that exempts proprietary remedies containing one-fourth of a grain of morphin or less to the ounce from the restrictions of that act. While it is illegal for a physician to write a prescription which contains morphin, no matter how small the amount, unless he conforms in all ways to the requirements of the Harrison Narcotic Law, "patent medicine" concerns can sell indiscriminately nostrums containing morphin up to this amount and the public can buy them without let or hin-

drance. No reputable druggist would sell a layman over seven hundred grains of chloral hydrate or two grains of morphin or eight grains of extract of cannabis indica, without a prescription, yet the druggist may hand over 8-ounce bottles of Hypno-Bromic Compound which contain 768 grains of chloral hydrate, 2 grains of morphin sulphate, 8 grains of extract of cannabis indica, 8 grains of hyoseyamus and 384 grains of potassium bromid!

Same is true of hundreds of other remedies containing the same amount of morphia that are being sold to the public as proprietary medicine without the similar supervision given doctor's prescription. "Consistency, thou art a jewel."

THE HARROWER PRIZE ESSAYS ON THE INTERNAL SECRETIONS.

Cash prizes amounting to five hundred dollars are offered to members of the medical profession (and to medical students) by Dr. Henry R. Harrower of the Harrower Laboratory, Glendale, Calif., for a series of essays on the internal secretions.

Object.—The donor believes that the study of the internal secretions and organotherapy is a most important and practical part of medicine and that there is room for further clinical knowledge on the subject. Further, endocrinology is of such vital importance in so wide a range of conditions that any incentive to study it more intensively is bound to develop much useful information on the subject.

Prizes.—There will be five cash prizes: First, \$250; second, \$100; third, \$75; fourth, \$50, and fifth, \$25.

Subject.—Any subject directly pertaining to the practical and clinical aspects of the internal secretions may be selected. It is suggested that the essays be directed at one special phase of the subject and not generalized too much.

Scope.—It is especially desired to direct attention and emphasis to three important points bearing on the character of the prize essays:

- (a) The importance of the endocrine glands in everyday medicine.
- (b) The closeness of their physiological and clinical relations.
- (c) The advances of organotherapy in general practice.

Style.—All manuscripts should be typewritten, double-spaced and on 8½ x 11 paper. The title should appear on each sheet and there should be a number on each sheet to identify the author—the name of the author must remain secret. The contest number will be given, together with the printed instructions, on request. Essays shall be in the English language and not more than 4,000 words in length, exclusive of bibliography.

Dates.—Applications must be received before July 1,

1920; and the contest will close August 15, 1920. It is hoped that the awards may be completed and the prizes distributed in October, 1920.

Marking.—Essays will be judged by a competent staff of medical men whose names will be published after the competition closes. Marking will take into consideration the following factors:

- (1) Arrangement—including educative value, convincing logic and literary style.
- (2) Personal clinical backing of the statements made.
- (3) Development of support from other sources.
- (4) Bibliography.

Publication.—Arrangements will be made to publish at least the winning essays. No essays will be considered that have previously appeared in print. The reading of essays before medical societies must be deferred until the contest is closed and the awards announced. The right of publication must be reserved to the donor.

Information.—Additional information, serial entry numbers and application forms with full instructions will be sent on receipt of a stamped addressed business envelope (size 6¾ in.). There is no entrance fee.

Address, The Harrower Laboratory, Contest Dept., Glendale, Calif.

TWO HUNDRED DOLLAR PRIZE OFFER BY THE NATIONAL ANAESTHESIA RESEARCH SOCIETY

At a meeting of the Board of Governors of the National Anaesthesia Research Society held in Cleveland in March, it was voted to have the annual convention of the Society at Pittsburg the week of October 4, this meeting to be in conjunction with that of the Interstate Anaesthetists' Association and the Pennsylvania Medical Society. It is possible that the Western Pennsylvania Dental Association also will join in the meeting.

In order to augment interest in the primary purpose of the society, which is research, the governors voted \$200 to be apportioned in prizes for the best papers on research in anaesthesia, such papers to be read at the national meeting. This offer is open to all students, surgical, medical and dental practitioners in the United States.

Canvass of hospitals having revealed need for a uniform anaesthesia chart, a committee of three was appointed to prepare forms. The committee consists of Dr. A. F. Erdman of Brooklyn, Dr. A. H. Miller of Providence, and Dr. E. I. McKesson of Toledo. It was also decided to prepare and publish at the earliest moment possible a monograph on the best practices in anaesthesia in obstetrics.

Announcement was made of the acceptance of the following well-known physicians, dentists, and anaesthetists as members of the Research Committee: Dr. F. C. Mann, Rochester, N. Y.; Dr. John Evans, Buffalo, N. Y.; Dr. A. E. Guedell, Indianapolis, Ind.; Dr. Wm. Harper DeFord, Des Moines; Dr. W. E. Burge,

University of Illinois; Dr. Wm. Hamilton Long, Louisville, Ky.; Dr. J. Griffith Davis, Baltimore, Md.; Dr. J. J. Buettner, Syracuse, N. Y.; Dr. Tyler, Philadelphia; Dr. Isabella C. Herb, Chicago; Dr. A. F. Erdman, Brooklyn; Dr. A. H. Miller, Providence; Dr. W. B. Howell, Montreal, Canada; Dr. R. S. Hopkinson, Milwaukee; Dr. Oel E. Lamphear, Kalamazoo; Dr. W. I. Jones, Columbus; Dr. Theo. Casto, Philadelphia; Dr. S. P. Reimann, Philadelphia; Dr. John Polak, Brooklyn, N. Y.

Address all communications to T. T. Frankenberg, Executive Secretary, 16 East Broad street, Columbus, Ohio.

THE QUESTION OF PHYSICAL EXAMINATIONS UNDER THE PROPOSED COMPULSORY HEALTH INSURANCE LAWS WILL BE HARMFUL AND UNWORKABLE IN PRACTICE.

Many working people are being led to believe that because the Davenport Bill for Compulsory Health Insurance promises admittance to the funds without physical examination that the evils of selection against the handicapped individuals are removed. This is not at all so. The law provides that the employer shall pay half the cost of the scheme. This automatically handicaps all working people according to sex, age and whether single or married.

All women are ill one-third more average days each year than are men. Therefore, under a Compulsory Health Insurance law with the employer paying half the premiums every woman in the State of New York would be under a handicap from the moment the law goes into effect. This handicap will affect her getting a job and it will affect her wages if she does get a job.

The man or woman past 40 years of age will cost the company for insurance each year fifty per cent more than will the man 20 to 30 years of age. The older man will be automatically handicapped the moment jobs become a little scarce.

Under the proposed law the man with a wife, who may also claim benefits, will cost the company more than the single man. Under the proposed scheme the married man will be handicapped from the start.

When jobs become a little scarce the handicap of the older man with a wife will be really great.

Think twice before you go on record as being in favor of compelling yourself to accept a scheme which has been a failure wherever tried.

Call the attention of the leader of your labor union to the above facts.

Committee on Public Information—Schenectady County Medical Society.

IMMUNITY, NOT DISEASE, INHERITED.

That we inherit immunity from, or at least power of resistance to tuberculosis, is the latest conclusion of

physicians who have studied the matter. The *New York Medical Journal* sums it up as follows:

"Authorities on tuberculosis have now come to believe that a history of tuberculosis in a family is a good sign rather than a bad one. A patient suffering from a severe form of tuberculosis, especially of the lungs, and who seems to feel confident that his affection can not be serious because, as he emphasizes, 'there is no history of tuberculosis in the family,' is often signing his death warrant. If there is no family history of the disease, then usually there is no immunity and tuberculosis will run a rabid and fatal course. The physician often searches the family history carefully for some trace of tuberculosis in the hope of finding a prop on which to support the possibility of producing immunity.

"It is scarcely necessary to point out how significant these ideas are and how much encouragement they may afford to patients whose relatives have been affected by tuberculosis, and who fear that the heredity element in their cases almost inevitably dooms them.

"The hope of the race would rather seem to be the encouragement of the propagation of persons capable of resisting disease. The American Indian is a husky, hearty specimen of humanity, but he succumbs to tuberculosis and, therefore, forms very undesirable material for the race in a world that has now become so thoroughly infected with the tubercle bacillus. The Hebrew has acquired a distinct immunity to tuberculosis and so is capable of living and thriving under slum conditions that would be impossible for other nations. Manifestly immunity heredity is one of the extremely important problems of the future."

ATTENTION! MEDICAL VETERANS OF WORLD'S WAR

At the State convention of the Illinois State Medical Society at Rockford, May 18 to 20, there will be a meeting of the medical veterans of the world's war.

Every Doctor who served the government in any capacity during the war and who attends the State meeting should be present at this conference. Matters of vital importance to the doctors and to the government will be discussed.

Don't fail to attend.

Specific information regarding the place and hour of meeting will appear in the May issue of the ILLINOIS MEDICAL JOURNAL.

WHAT HAS HAPPENED IN GERMANY CAN HAPPEN IN THE UNITED STATES

A number of prominent medical men of this country are aiding and abetting the compulsory health insurance scheme which has been prop-

posed by a lot of wild-eyed visionaries. The scheme is destined to work havoc in the medical profession, and it should be frowned on by every right-thinking doctor. At present we are asleep when it comes to the consideration of some measures that are advocated as a panacea for some of the ills of humanity, but which spell the death knell to medicine as a profession. The National Constitutional Convention of Germany approved compulsory public health regulations that will practically ruin the German medical profession. The fees which doctors in Germany will receive on behalf of assured persons will be not more than eight cents (8c) a visit. *What has happened in Germany can happen in the United States*, and we might as well buckle on some armor before it is too late and fight the threatened catastrophe. Incidentally, we owe it to the medical profession to set down on those of our members who are trying to carry into effect some Utopian dreams, and who, under any calamity to the medical profession, would not suffer themselves.

Now is the time to relegate to the rear of medical organizations, both State and National, the Alexander Lamberts, Goldwaters and others of their ilk.

A DAY IN THE LIFE OF A HEALTH INSURANCE PANEL DOCTOR

The weekly visit to paymaster's window.
The slip showing the amount of "piece work" done.
The sixty per cent. salary dock because of what the medical supervisor considers too many visits.
The shadow of paternalism.
The hurried work.
The snap diagnosis.
The stereotyped therapy.
The failure of preventive medicine.
The very cheap obstetric case.
Bickering with arbitration committees.
The vitiation of the old time relationship between physician and patient.
The decision to strike.
The dismal prospect.
The cursing of those who wished health insurance on the land.

VIENNA DOCTORS WIN MEDICAL STRIKE

The political weapon, the strike, which so often has been adopted with more or less success in economic warfare between capital and labor, has now been taken up, for the first time in this country, by medical men anxious to secure a modest living. The

first strike was arranged by physicians of the "Krankenkasse" or sickness insurance society, who demanded an increase of their moderate fee at the rate of trebling their antewar fee. It must be added that at present the cost of living is forty times as great as before the war. As these physicians devote only part of their time to this "panel" work, their demands have been low. Hitherto the "Krankenkasse" has refused the new rate of remuneration, and so the medical men no longer treat the members on the old terms but as private patients. Public feeling is in favor of the physicians, so the result is not doubtful. A similar "difference of opinion" has sprung up in our clinics. Hitherto only the assistants and two house physicians were paid in the clinics. All other physicians, the outpatients' assistants as well as other physicians working in the clinics and, so to speak, making the thing "run," were working gratuitously. Now the enormous cost of living is so heavy that these men, too, demand from the board of education, to whom the clinics belong, a moderate remuneration and free board. As the work of these doctors is indispensable for the good working order of the clinics and since the government has refused to comply with the wishes of the men, they applied to the "Medical Organization," comprising 99 per cent, of all medical men of Vienna, for help. The organization proclaimed, after futile negotiations, a clinical strike, which lasted only a few hours. They attained their object. The leading rule in the new understanding is: "No work without payment, but only those men will be admitted whose work is required for the clinics, and the number will be restricted to the actual needs."—*J. A. M. A.*

A DOCTOR'S UNION

Almost coincident with the receipt of the Doctor's strike in Vienna, came one from Oregon, stating that Otto Hartwig, president of the Oregon Federation of Labor, was planning a movement to organize the Portland physicians, surgeons and dentists into a union to affiliate with the American Federation of Labor. According to Hartwig, these professional men desire such a union.

The proposed union, Hartwig says, would guarantee the physicians, surgeons and dentists an eight-hour day; the right to picket offices of non-union medicos; the power of the sympathetic strike and a "living fee."

It is probable that Hartwig is wrong in his impression that physicians, surgeons and dentists of Portland are in favor of the proposed union. It may be that he is merely the too-credulous victim of propaganda spread by his assistants.

It is difficult to bring one's mind to a belief that reputable physicians, surgeons and dentists would enter such a union. These men are in professions the duties of which consist in the alleviation of pain and the saving of human lives. When they voluntarily entered these professions they became morally

bound to relieve suffering at any time and any place. It is inconceivable that any American physician or surgeon would refuse to work more than eight hours a day when there were patients in urgent need of medical attention; or that American physicians and surgeons would quit a patient at a critical period of a disease or leave him on the operating table in the midst of an operation in order to answer a call of a union leader to start a strike. Nor is it conceivable that an American dentist would refuse to give treatment to a patient suffering from toothache or an abscess or other serious affection within the dentist's power to cure.

But the walkout of hospital physicians and their assistants in Vienna shows the dangerous possibilities of extending the labor union strike weapon into the medical professions. And Vienna, with its enormous number of sick persons, is in worse condition than American cities to stand such a crisis.

It is to be hoped that Oregon is the only state in America where any labor leader even thinks he has reason to believe that physicians, surgeons and dentists will enter a labor union and use the strike to raise their fees. It is hardly possible that an indorsement of such an organization could be secured from members of these professions except in a bolshevik city like Vienna.—*Daily Oklahoman*, February, 5, 1920.

There need be no worry on this score. Physicians above all others realize the rule of the survival of the fittest. They realize, too, that injection of the principle of trades unionism will inevitably result in smothering individual initiative; that the mass will be drawn down to the level of the mediocre. His success is dependent on himself solely, with proper affiliation with his fellow, but not to the end that all will find the level of the lowest. His ideal is to bring the lowest, least informed, most inefficient up to the standard. Unionizing him would make of him a machine, largely responding to the edict of the preponderant average present in all bodies of men. A cardinal principle of his creed is that the needy shall never suffer by his studied activity; he extends relief first, inquires, often with disappointment for his reward after his good work is rendered; protected by no class legislation of lien on every tangible vestige of his patients' goods, as is the unionized laborer, he indeed stands as exponent of the principle that the trials of men are the problems of all. The walking delegate or "Business Agent" knows him not; his hard-earned knowledge is expended in the face of opposition from the designing, the profiteer on human misery, the scientist and mushroom faddist born of yesterday, tomorrow a memory. If he ever really unionizes himself, bolshevism will be as a summer day compared to the power for ill he will hold. But such a revolutionary hour will not come. We believe he will always remain what he is—a patriotic man proof to the illogical blandishments of passing hysteria.—*J. O. S. M. A.*

THE PATIENCE OF THE MEDICAL PROFESSION IS EXHAUSTED NOW, AND ORGANIZATION FOR MUTUAL PROTECTION IS IMPERATIVE AND INEVITABLE

THE INJUSTICE TO PHYSICIANS, DENTISTS AND PHARMACISTS UNDER THE PROPOSED NEW YORK COMPULSORY HEALTH INSURANCE LAWS

Dr. John Joseph Kindred, *Medical Record*, December 27, 1919, after giving exhaustive history of the proposed Health Insurance Laws in New York says:

I indorse the forceful argument of Dr. John J. O'Reilly, chairman of the Public Health Committee of the Professional Guild of Kings County *in so far as it condemns the injustice of the bill to physicians, dentists, and pharmacists*. His argument clearly sets forth the views of opponents of the bill, who do not see in any of its provisions either sound economics, social betterment, or other benefits claimed for it by its proponents. Dr. O'Reilly says in part:

The only basis for the computation of any form of insurance is the law of averages; if the framers of the Davenport-Donahue Compulsory Health Insurance Bill, used any other basis they were wrong from the start. If they did use this basis (and they claim they did) they must be judged by the law of averages and of the great high priest of that law—the statistician, who says: There are 4,000,000 workmen in the State of New York. The average workman loses nine days each year through illness and his average daily wage is \$2.00 and the average annual wage loss is \$18.00 or 3.25 per cent. of his annual wage of \$554.00 for the 227 working days. That by making the average premium for compulsory health insurance \$18.00, and compelling the workman to pay one-half (\$9.00), and compelling his employer to pay the other one-half (\$9.00), it will be possible to pay the workman cash benefits at the rate of \$8.00 per week (of seven days), or \$1.14 per day and, in addition, provide him with all necessary medical, surgical, dental, nursing, and specialist's care; medicines and supplies; all hospital care, all laboratory aids; as well as cash benefits for his wife, for the two weeks before and six weeks after her confinement, together with the necessary medical and obstetrical care and supplies. This is very alluring to the gullible workingman and, if practicable, would solve society's most troublous problem and advance the millennium several hundred years. There are several obstacles in the way; one is the mathematical law which says that when you give the average man his nine days cash benefits at \$1.14 per day, it makes a total of \$10.46 and when you deduct from this the total

premium of \$18.00 you have a balance of only \$7.74 which must be made sufficient to compensate the doctor, the nurses, the druggist; the hospitals, laboratories, and dispensaries; the medical and surgical supply dealers, the dentist and the dental supply dealers; the specialists along various lines, and, in addition to this, to compensate the doctor or the obstetrical specialists (or both) and to furnish all necessary obstetrical supplies, and further, to give the wife of the employee cash benefits of not more than \$8.00 per week (\$1.14 per day) for a period of two weeks before and six weeks after her confinement, and funeral benefits of \$100. Since this leaves a balance of \$3.52, the amount available for medical care, etc., is at the rate of only thirty cents (30c.) per day, which surely looks like a lot of work and material for a small amount of money. It sounds absurd; it is absurd and its very absurdity should make the citizens of the State of New York extremely suspicious of the principle upon which compulsory health insurance of the Davenport-Donahue type is formulated, or wary of the application of that principle which fails to embrace the fact that this compulsory health insurance differs from life, fire, or even voluntary health insurance wherein certain requirements are exacted, such as physical examination or compliance with the rules of the board of fire underwriters, and where the probability of lapses reduces the element of risk—for in this compulsory health insurance there is to be no physical examination, and there can be no lapses because your employer must deduct your share of the premium from your pay envelope and the employer must pay his share or become a misdemeanor and be jailed or fined or both.

The proponents say the insurance will cost the State nothing. Let us see. How is this double-headed premium of \$18.00 to be collected and disbursed? By and through whom? How are they to be compensated? The bill provides for the organization of a number of "local trade and establishment funds, each of which shall have a board of directors of seven (7) members and each of these members shall receive five dollars per day when they attend meetings," and if they attend but one meeting in each of the fifty-two weeks in the year, the total expense for this part of the administration alone will be \$1,456,000. Because "each fund shall take care of the insurance of not less than 5,000 persons" (and probably not more) and, since there are 4,000,000 workmen, there would have to be 800 such "funds," each with seven directors, each drawing \$5.00 per meeting for the 52 meetings. Multiply it yourself. Now each of these funds (800) must "employ a medical officer" who is "not permitted to practise" and we surely could not expect to pay such a man less than \$1,500 per year and this would make another expense of \$1,200,000. Each of those funds must do an insurance business for at least 5,000 persons, and this cannot be done on a street curb; those seven directors, at \$260 per year, neither would nor could do this work, so they must have offices, and pay rent. Each fund must

have a manager and some clerks for the stupendous filing and correspondence, some investigators, some stenographers; telephone service, postage, stationery, and other incidental expenses; surely I shall not be charged with extravagant ideas if I put that figure at \$5,000 for each fund or a total of \$4,000,000—which, with the other two items would make a grand total of \$6,656,000—and not so grand after all, for I have not yet taken into account the tremendous expense of the State administration of those funds through the health insurance bureau for which the bill provides. This commission or bureau must have a commissioner, deputy commissioners, secretaries, an army of clerks, stenographers, investigators, and inspectors; boards of appeal and expensive counsel and all the expenses incidental to a State commission or bureau and this, in the nature of things, must surely exceed the expense of operation of the present Workmen's Compensation Bureau, which was \$537,556.32 in 1918, on the basis of cash benefit disbursements of \$12,000,000, whereas a compulsory health insurance bureau will dispense \$57,945,515 and at the same proportionate cost this will be \$2,595,753 or a grand total of \$9,251,753, or more than one-seventh of the entire State tax budget for 1919 (\$59,000,000), which can only be paid by additional taxation since, as you can see, the average premium has been exhausted by cash benefits to the average employer of \$10.56 for his nine days, \$2.76 for maternity-equivalent-in—"days-lost" and \$1.46 for funeral benefits per average man or a total of \$14.48, which leaves only \$3.52 for 11.43 days treatment, or 30 cents per day.

Even such a great increase in the State taxes would be a justifiable expense if it could insure health to the workingmen of the State of New York—but is there a Chinaman's chance of any such good results being attained?

The "bad work" of the underpaid and discontented lay workman may be disposed of as a "second" or replaced with much grumbling and at great cost by the deceived and dissatisfied ultimate consumer. Even under such conditions, the home may adapt itself to the inconveniences of poverty and, at the sacrifice of self-respect, accept the charity of the philanthropist or the municipality; even the children can piece out their meager education by attending night classes at the expense of the time which nature demands for recreation and rest; society may hold rebellion, may check it for a time by an amplified police force or an armed State constabulary, or both—but the work which the doctor, the dentist, and the druggist have to do is the conservation, the preservation, and the repair of the public health, and "bad work" here spells disability and death and the consequent withdrawal of tens of thousands from the ranks of workers; an increase in poverty throughout the State; the necessitous occupation of mothers and children; the disruption of the home and the degeneration of society. And this "bad work" is the only kind of work the public may hope for or expect from a profession degraded by law to the status of a contract business. That bill passed the Senate in March, 1919;

it did not come before the Assembly for a vote; its reintroduction at the beginning of the next session of the legislature in January, 1920, is definitely promised and one of the paid professional philanthropists who actively lobbied for the Davenport-Donahue compulsory health insurance bill says that the proponents of the bill are campaigning throughout the State to force its passage. They ask the medical profession to subscribe to the principle of compulsory health insurance and submit constructive suggestions. We cannot, in conscience, and will not, in compromise, attempt to amend constructively a measure which is basically vicious; the only honest attitude for us is to say: "Pass it if you dare, we will not help you make it operative." We took the bait when the (federal) Harrison law and the (State) Boylan narcotic law were pending and were lulled into a state of fancied security by some modifications which were made and we relaxed our vigilance; we will not make that mistake again. Once enacted as the law, amendments came thick and fast, and today not one doctor, dentist, or druggist in five hundred can say just when (before the court of his conscience or a court of law) he may not be called upon to answer for a crime of omission or commission, try as he may honestly and substantially to comply with the intricacies, and avoid the pitfalls of those laws. Meanwhile, society suffers an alarming increase in the perils of increased drug addiction and doctors who cherish their reputations in the community hesitate to treat addicts.

The doctors, dentists, and druggists have a public duty to refuse to take the initiative or even lend a hand in advancing legislation which they know to be vicious, or which they know will limit their capacity for usefulness to the public, or which they know will limit their earning capacity and the fulfillment of their obligations to their families. They must, in common justice, warn the public of the menace of such legislation and ask its assistance in defeating it. If the public be heedless or indifferent to this warning, the medical professions still have the sacred duty to try to save the public and themselves by refusing to help make the law operative even at the risk of being misunderstood and maligned. I know the thought of organizing a labor union of professional men is horrible to contemplate; I know that if such an organization be forced upon us it will be subject to precisely the same danger of misuse and abuse that occasionally manifests itself in labor unions made up of laymen; with this difference, that public health and life, rather than the public comfort will be the subject of barter. The patience of the medical profession is exhausted now, and organization for mutual protection is imperative and inevitable. In the future the duty will rest upon the public to encourage the maintenance of the morale of those professions so that the quality of honor among them will reduce the abuse of their power to the minimum.

The medical, dental, and pharmaceutical professions have already organized in Kings, Queens,

and many other counties in the State, and have in some instances passed resolutions solemnly declaring that they will not become a part of the machinery for carrying out what they know to be an unjust measure and a rank injustice to them.

In Great Britain, where compulsory health insurance has been in operation, the refusal of the majority of physicians to cooperate, for the same reasons, has caused a failure of the whole health insurance machinery.

A REFUTATION OF FALSE STATEMENTS
IN PROPAGANDA FOR COMPULSORY HEALTH INSURANCE
COMMITTEE ON CONSTRUCTIVE PLAN
SOCIAL INSURANCE DEPARTMENT

THE NATIONAL CIVIC FEDERATION

DR. ALVAH H. DOTY, *Chairman*:

Medical Director, Western Union Telegraph Co.,
New York.

MRS. F. LOTHROP AMES:

Chairman Industrial Committee, New England
Section, Women's Department, The National
Civic Federation, Boston, Mass.

MRS. SARAH A. CONBOY:

International Secretary-Treasurer, Textile Work-
ers' Union of America, New York.

MARK A. DALY:

Secretary Associated Manufacturers and Mer-
chants of New York State, Buffalo, N. Y.

GERTRUDE BEEKS EASLEY:

Director Welfare Department, The National Civic
Federation.

DR. LEE K. FRANKEL:

Third Vice-President, Metropolitan Life Insur-
ance Company, New York.

HUGH FRAYNE:

General Organizer, American Federation of La-
bor, New York.

DR. H. W. HOUGHTON: New York.

HILL MONTAGUE:

President International Fraternal Congress of
America, Richmond, Va.

GEORGE W. PERKINS:

President Cigarmakers' International Union, Chi-
cago.

P. TECUMSEH SHERMAN:

Attorney, New York.

J. W. SULLIVAN:

Of the American Federation of Labor, Member
International Typographical Union, Brooklyn,
N. Y.

MRS. COFFIN VAN RENSSELAER:

Executive Secretary, Woman's Department, The
National Civic Federation, New York.

FOREWORD

The pending movement for compulsory health in-
surance in this country undoubtedly obtains its
principal impetus from false beliefs as to the suc-
cess of the European experiments in this line of social
insurance.

Back of this false basis there is a real question
whether or not compulsory insurance would be the
best remedy for some social evils we all acknowledge
exist and for which, all agree, a remedy or remedies
should be sought. That question will be considered
on its merits, in the light of the truth as to foreign
experience and domestic conditions, so far as now
ascertainable, in a later report from a Committee
on Foreign Investigation, having for its Chairman
J. W. Sullivan of the American Federation of Labor,
a member of the International Typographical Union.

As a preliminary, however, it is desirable to sweep
aside a mass of fictions, falsifications, guesses and
unwarranted assumptions which stand in the way of
the search for the truth. Hence this report from
the Committee on Constructive Plan whose Chairman
is Dr. Alvah H. Doty. That Committee in the near
future will present propositions of a positive char-
acter for legislative enactment and public health edu-
cation designed to eradicate unnecessary disease and
protect the worker when idle, neither of which has
been covered by any insurance scheme offered so far.

In this document, claims of proponents are given
in black face type and followed immediately by re-
futations in a contrasting light font.

WARREN S. STONE,

*Chairman Social Insurance Department,
The National Civic Federation.*

A REFUTATION OF FALSIFICATIONS AND
UNWARRANTED ASSUMPTIONS IN THE
PROPAGANDA FOR COMPULSORY
HEALTH INSURANCE

*"Practically everyone who has considered the mat-
ter recognizes that the distribution of the loss from
sickness by means of insurance is desirable."*

(Report of the Ohio Health and Old Age In-
surance Commission, p. 159.)

This proposition asserts generally what is true only
partially and asserts unconditionally what is true
only conditionally.

A very large proportion of those who have studied
the matter believe that it is very undesirable to dis-
tribute the loss from sickness *due to vices* by means
of insurance or otherwise.

And an almost equally large proportion of those who have considered the matter believe that a distribution of the loss from sickness by insurance is desirable only upon condition that such distribution be made fairly in proportion to risks and responsibility.

These distinctions are most material to the issue between compulsory and voluntary health insurance, since they call for insurance practices incompatible with any system of compulsory health insurance ever proposed in this country.

Compulsion is necessary because under voluntary insurance those who need it most are the ones who remain uninsured.

(Senator Davenport, in N. Y. Senate, April 10, 1919. Cf. "Brief for Health Insurance," American Labor Legislation Review, June, 1916, pp. 194-210.)

This proposition implies a fundamental untruth, namely, that *compulsory* sickness insurance, in contrast to *voluntary* sickness insurance, would actually provide the needed relief in sickness to *practically* all those who need it most. That compulsory sickness insurance would or could do so is to be proved by experience and not simply assumed.

The Austrian, Hungarian, Luxemburgian, Russian and Rumanian laws apply only to wage-earners in the great organized industries—in other words, to the classes for whom it is easiest to organize insurance, and who, in Austria and Russia at least, were already quite generally voluntarily insured—leaving out casual labor in the industries covered, all the unemployed and unemployable and the great mass of the employed. It cannot seriously be contended that experience under any one of these laws shows that compulsory insurance has reached or can reach the classes which need sick relief the most.

The Dutch law, in addition to the unemployed and high paid wage-workers, exempts casual labor—the class of workers which needs relief the most;—and how far it actually provides sick relief for the other needy classes of low paid wage workers is yet unknown, because that law only went into operation in 1914.

The Norwegian law, besides the unemployed, exempts casual labor and chronic invalids; and how far it actually provides sick relief for the other needy classes of wage workers is unknown (although the law took effect in 1911), because its operations have never been critically investigated by any competent authority, so far as known to English readers.

The German compulsory law, until 1914, applied only to the regularly employed wage-earners in industries, commerce and transportation. In 1911 it was extended, to take effect in 1914, to cover also casual, itinerant and agricultural laborers and domestic servants; but how far it is successful in actually providing the needed relief to these special classes is yet unknown, the war having shut off outside observation. And the German compulsory law leaves out all the self-employed, unemployed and unemployable—the extension of the medical benefits

to dependents by a few local and factory sick funds being *voluntary*.

Consequently only the British experience is left to look to for support of the assumption that compulsory sickness insurance can succeed in *supplying the needs of the most needy*. And British experience supports the opposite conclusion, as is conclusively shown by the last report of the Local Government Board for England, wherein it is stated:

"Of the number of tuberculosis applicants at metropolitan dispensaries, 3,168 were insured, and 13,660 were not insured; and of the applicants at nonmetropolitan dispensaries, or those located outside of London, 25,865 were insured, whereas 34,644 were not insured." (Hoffman, "Facts and Fallacies of Compulsory Health Insurance," p. 64.)

This is confirmed by the report of the Committee of Enquiry of the Fabian Research Department, in which it is found that the following classes were not getting sick relief:

"The 5 to 25 per cent of insured persons who are not on any doctor's list * * * the large number of 'strays' or persons temporarily away from home or regular travelers, who fail to get the green or yellow ticket, which is supposed to secure them treatment by any panel doctor, but is not yet everywhere working; the odds and ends of insurable persons who escape insurance; to say nothing of the hundreds of thousands of hawkers and peddlers, petty craftsmen and shopkeepers whom the act excludes; and the sixteen million wives and children of the insured whose need for medical attendance it ignores. * * * *For all its vast expenditure the Insurance Act, which comes to the aid of the artisan and the factory operative, still leaves unprovided for a vast mass of those for whom provision is most needed.*"* (The New Statesman, March 14, 1914, Supplement.)

So all that experience indicates is that compulsory insurance would spread farther and faster than voluntary insurance, but that under either system there would still remain the great mass of the needy, who must still be provided for in some other way. So the problem is: Would it be just and socially expedient to design an expensive system of insurance for the relief of needy wage-earners which, however, could be effective only as to a minority of the most needy in the community, and impose it upon all wage-earners—the needy and the self-sufficient alike?

"The needs for the cure, financial relief and prevention of illness among wage-earners" can be met "by a comprehensive system of compulsory health insurance."

("Brief for Health Insurance," American Association for Labor Legislation, p. 211.)

This proposition asserts positively what experience demonstrates to be in part extremely doubtful and in part—i. e., so far as it relates to *prevention*—almost certainly untrue.

The following is testimony on this point by actual observers, with reference particularly to British and German experience:

"The fundamental fact stands out paramount, that social insurance cannot remove or prevent poverty. It does not get at the causes of social injustice. * * * The efforts of trade organizations are directed at fundamental things. * * * In attacking the health problem from the preventive and constructive side they are doing infinitely more than any health insurance law could do which provides only for relief in case of sickness, and yet the compulsory law would undermine the

*Italics throughout are ours.

trade union activity. There must necessarily be a weakening of independence of spirit and virility when compulsory insurance is provided for so large a number of citizens of the State." (Samuel Gompers, Annual Meeting, The National Civic Federation, New York, Jan. 22, 1917.)

"We must always take into consideration that any forced conditions upon the workers must have a tendency to create revolt. Compulsory health insurance has not improved the working portion of the community, nor materially raised the standard of public health.

"All the more conspicuous and gratifying results in the improvements of social conditions, the lowering of the death rate, the gradual elimination of preventable diseases, etc., were secured more effectively in this country and entirely without compulsory insurance." (W. A. Appleton, Secretary, General Federation of Trade Unions of Great Britain, and Chairman of the newly organized "International," in "The Democrat," London, of July 25, 1919.)

In Mr. Appleton's "Federationist," the following appeared (March, 1919), relative to the influenza epidemic:

"The lot of the panel patient has never been a very happy one. Today it is tragic; and, if the Insurance Commissioners are powerless to act, the Local Government Board, which is more or less concerned with hygiene and sanitation, should itself intervene. Anyone going the rounds of the surgeries in the poorer-class districts will find many of them overcrowded with patients, who have to wait two and three and four hours for attention. The immediate result is to drive the busy patient or the patients who objects to sitting in a germ-impregnated atmosphere to the chemist's shop for ready-made remedies that may or may not be suitable for their complaint. The exploitation of the panel patient is a scandal, and those responsible ought to be indicted."

The Interim Report of the Committee on Enquiry, Fabian Research Department, in 1914, relative to the operations of the British health insurance, said:

The medical service is "intolerably incomplete, intolerably wasteful and intolerably costly." "It is, on the whole, for only the minor ailments of the insured persons that medical treatment is being provided under the act." "A vast multitude who were already providing what was requisite for themselves" have been needlessly brought under the act. About 295,000 Deposit Contributors "are taxed without getting personally hardly any of the advantages." The insurance of the casual laborers has broken down. The exaction of contributions from the poorer laborers "is abstracting from each of their bare cupboards one loaf of bread a week, thereby starving them still further into illness in order to pay for their doctoring and Sickness Benefit during the illness which the State has thus helped to create." The provisions covering pregnancy and maternity, tuberculosis and venereal diseases do not belong in the insurance scheme and should be removed. (The New Statesman, March 14, 1914, Supplement.)

Again reviewing the workings of the health insurance some three years later the organ of the Fabian Society said:

"Practically none of the fundamental drawbacks and none of the serious injustices of the scheme have been remedied." The amended act "leaves untouched both the grievances of the doctors and the still more serious failure of the Commission to supply, as the act promised, 'adequate medical treatment; * the provision of appliances and medicines is still unfairly restricted; * the practical breakdown of the campaign against tuberculosis remains unremedied; * at least half a million women of the same class as the rest are still excluded from the maternity benefit; * the 'deposit contributors' are still unprovided with anything that can be called insurance; * the economic absurdity of abstracting a loaf of bread a week from hundreds of thousands who have demonstrably not enough to live on continues unchanged; * and the Commission has failed to solve the problem of the casual laborer." "Above all stands the failure of the scheme as a measure of public health. The act has not had any appreciable effect in preventing disease,

diminishing infant mortality or in encouraging hygienic ways of living." (The New Statesman, December 1, 1917.)

"In taking a broad view, the advantages of the act must not be minimized. * * * But these benefits are all in the nature of Poor Relief under another name, and they do little to alter the conditions which bring about sickness. As far as improvement of the public health is concerned, the influence of the act has probably been almost nil. The medical service is no better than that which preceded it, the main change being that a certain number of persons who formerly went to infirmaries and hospital out-patient departments now go to panel doctors; sanatorium treatment has proved of little value among the working classes; the provisions intended to deal with the evils of bad housing and insanitary conditions are unworkable; and the schemes for collecting public health information are futile. Nearly all classes grumble at the act; and though the panel practitioners have benefited financially the medical profession has been split into two camps, between which much bitterness exists." ("Health and the State," Wm. A. Brend, M.D., Chap. VII.)

"The administrative machinery of the health insurance has practically deprived the numerous societies which were the agencies for the old meritorious voluntary insurance of their free self-control—that is, it has ruined them in their essential character. The existence of the public relief under the act is drying up the sources of private and voluntary relief. The act is not yet formulated to effect its peculiar function for social relief, and the principal sufferers from its defects are the very classes who stood most in need of that relief. The medical service provided is worse than insufficient; it is dangerous. And it is extravagantly expensive." "Final judgment must necessarily be suspended until the machinery of the system is fitted to its functions and more actuarial experience obtained. But the present impression is most unfavorable, and the prospects are gloomy both for the taxpayers and the insured." (Report of Committee on Preliminary Foreign Inquiry, The National Civic Federation, 1914, p. 55.)

"There can be no doubt that the matter of certification of eligibility to sickness benefit ('sick pay') has not worked out satisfactorily so far. An immense amount of misunderstanding and the physicians has been responsible for the difficulties," and the physicians has been responsible for the difficulties." (Report of the (British) National Health Insurance Joint Committee, 1913-1914. Cf. Report of Department Committee on Sickness Benefit Claims, 1914.)

"The National Health Insurance Act * * * has not been marked by its preventive value." (Sir Arthur Newsholme, M.D., K.C.B., Former Chief Medical Officer of the Local Government Board for England, Contemporary Review, May, 1919.)

"Most of those engaged in country practice will, I am sure, bear me out when I say that the effect (of the health insurance) is not good. The Insurance Commissioners exact a weekly toll from these poor people and offer them in exchange an avowedly restricted and imperfect medical service, the medical attendance. The moral effect has been bad." (Dr. unfortunate patient solemnly admonished not to be taken ill in the night and not to expect more than the minimum of medical attendance. The moral effect has been bad." (Dr. T. J. Fletcher, British Medical Journal, June 3, 1916.)

Not a single commendatory reference to National Health Insurance can be found in any of the reports of the Registrar Generals for all the years since the insurance took effect, nor in any of the large number of local health reports for representative cities and towns. But there is to be found a statement by the Medical Officer of Health of Rochdale, that, according to his experience: "Health insurance as now in operation in this country is simply a gigantic fraud," and that, in his opinion, the people are worse doctored than ever before, and at the maximum cost of irritation. (Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 132.)

And the "Final Report of the British Health of Munition Workers Committee," April, 1918 (Bulletin 249 of U. S. Bureau of Labor Statistics), is equally cold towards the Health Insurance. It credits that insurance with no evidence or data bearing on sickness or the problems of health although a late report of the National Health Insurance Administration boasted that it was "accumulating data of material importance." And the recommendations of that Committee have no reference to the Health Insurance as a means for promoting health and are all as feasible without health insurance as with it.

Turning now to Germany:

In his recent book, "My Four Years in Germany" (p. 124), former Ambassador Gerard, referring to German social conditions, says:

"The workmen are the hardest workers and probably work longer and get less out of life than any workmen in the world. The laws so much admired and made ostensibly for their protection, such as insurance against unemployment, sickness, injury, old age, etc., are in reality skilful measures which bind them to the soil as effectively as the serfs of the Middle Ages were bound to their masters' estates."

And Price Collier, in his "Germany and the Germans," had this to say:

"It is becoming increasingly evident that the logical result of state charity (or call it state insurance to avoid controversy) over a large field and including millions of beneficiaries and claimants, is that the army of officials, the expenses of administration, and the payments themselves must sooner or later break the back of the state, morally, politically, and financially. It rapidly increases parasitism among the receivers; makes a powerful though indifferent army of state servants of the distributors; and loses financially to the state far more * * * than it gains * * *. To put it briefly, it is far more dangerous to the state to tell the individual that he shall be taken care of than to tell him that he must shift for himself. As for the effect upon the individual, it is a lowering medicine, making the patient gradually dependent upon the drug, and bringing him finally to the incurable invalidism of surly apathy. To change Patrick Henry's fiery peroration slightly: Give me liberty or in the end you give me moral and political death."

In January, 1914, a German Vice-Chancellor (Delbrück) announced in the Reichstag: *"We are not yet out of the dark as regards the results of the existing social insurances."*

"It is from every point of view, a deplorable, though undeniable, fact that—with the natural exception of official laudations, which are of scant value—there is nowhere a trace of the enthusiasm which once greeted the new institution" (social insurance). ("The Practical Results of Workingmen's Insurance in Germany," by Dr. Ferdinand Friedenshurg, formerly President of a Senate of the German Imperial Insurance Office.)

"We (in Great Britain) adopted national insurance on the faith of such statements as these (of the success of sickness and invalidity insurance in Germany), and are now realizing our mistake. Yet the merest glance at the German vital statistics would have shown that Germany is the very last country from which we can learn lessons in Public Health or Preventive Medicine. Not only is the general death rate high and the death rate from tuberculosis excessive, but the infant mortality rate has always been very high, and between 1901 and 1910 the deaths of infants under one year of age averaged 187 per thousand births. Bad as is the British record it does not approach these appalling figures." ("Health and the State," by Wm. A. Brend, M.D., Chap. VII.)

"No greater fallacy exists today than the apparently widespread notion that German social legislation has had a wonderful success." "Whichever way we turn * * * and

from being a blessing, as the interested officials would have drawbacks and serious objections are to be observed. Far from being a blessing, as the interested officials would have us believe, it is breeding a host of evils which greatly diminish, if they do not outweigh, its benefits. *The cost is tremendous, for one must include not only the expense in dollars and cents, but also the economic loss caused by the rise in the sickness rate, the prolongation in time of healing, the diminution of the chances of recovery and the failure to work to full capacity.*" "The belief is growing in Germany that, as between the honest, industrious and thrifty among the working people, on the one hand, and the dishonest, lazy and shiftless on the other hand, these laws are of comparatively small benefit to the former, but in every way favor and subsidize the latter—and at the expense of the former." ("Workmen's Accident Insurance in Germany," by Harold G. Villard, pp. 17-20.)

"I studied two years in Germany and Austria." "I had a splendid opportunity to study the practical workings of the system." "My conclusion at that time was that health insurance resulted, either in high cost to the insured, or underpayment to the medical men, or inefficient service, or any two or three of these. I have had no reason to change my conclusion." ("Further Objections to Compulsory Health Insurance," by Dr. Edward H. Ochsner.)

"I studied five years in Germany." "I have seen the health insurance law of Germany working in the clinics and hospitals for several years." "The hospitals are full of malingerers." "I can say that there is a class that fill the hospitals in Germany has not been materially improved, but quite to the ingerer there is." Health insurance "is going to put a premium on malingering and a burden on the (medical) profession; for more than half the time of the physician will be engaged in trying to determine who is a malingering and who is not." "And it is going to put a burden on the honest working man." (Dr. Harry R. Gaylord, Hearing on Davenport Bill, March 19, 1919.)

"The condition of the medical profession throughout Germany has not been materially improved, but quite to the contrary the ethical standards have been perceptibly lowered." "A vast amount of precious time and thought is wasted upon needless treatment for trivial or imaginary complaints, while treatment for serious afflictions is often grossly inadequate to the purpose of a cure." "The sickness rate among German wage earners has not been reduced, but remains at a figure far above any corresponding conditions of ill health in this country. In many of the funds more than half the wage earners will claim sickness and medical benefits throughout the year. Most of these benefits are, by independent inquiries, proven to be unjustifiable demands upon the funds." ("Failure of German Compulsory Health Insurance," by Frederick L. Hoffman, p. 18.)

A careful study of the various plans of Health Insurance either in operation or recommended for approval present little or no evidence that the education of the public as an important factor in the preservation of health and the prevention of disease is fully appreciated, or that if properly carried out would go far to render compulsory health insurance unnecessary. It is true that reference is made to the value of this means of maintaining health but no definite or concerted action plays a part in the measures now employed or in the plans proposed for future action. It may be added that in the Davenport Bill, reference to this modern method of disease prevention (§ 24) is exceedingly brief and offers but little hope that any extended action will be taken under the provision of this Bill to educate the classes which come under the scope of compulsory insurance.

The proper education of the public is a powerful instrument in the prevention of disease. Contrary to statements frequently made, relative to this matter,

only very slow general improvement has been made in this direction. Within the past three years a careful investigation was made in New York City to ascertain to what extent the laboring classes were informed regarding health protection, while almost all who were interviewed expressed a genuine desire to know by what means health might be preserved and disease prevented, in order to protect themselves and their families, yet very few reported that they had received any definite or satisfactory information upon the subject. It is the education of the masses which is needed to improve the health of a community rather than compulsory health insurance.

(To be Continued)

Society Proceedings

CHRISTIAN COUNTY

On the evening of March 8, 1920, a meeting of the Taylorville branch of the Christian County Medical Society was called to meet at the office of Dr. D. D. Barr for the purpose of making formal recognition of the death of Dr. George T. Meacham which occurred on the evening of March 6th, 1920, from carbolic acid poisoning. In response to this call the members present unanimously adopted the following resolutions:

WHEREAS, Dr. George T. Meacham, a member of our county and state medical societies, has, by his genial manner and business integrity endeared himself to the medical profession of this county and particularly to the physicians of Taylorville, we deem it a privilege to record our appreciation of his merits and to declare our sorrow at his departure. Therefore be it

RESOLVED, That in the death of Dr. Meacham this society has lost a valuable and dearly beloved member and that his passing away is deeply deplored by the physicians of Taylorville and throughout the county.

FURTHER BE IT RESOLVED, That we convey our sympathy to the widow by presenting her a copy of these resolutions and that we also mail a copy of the same to the ILLINOIS MEDICAL JOURNAL for publication that other friends may know our action. And further that these resolutions be made a part of the permanent records of the Christian County Medical Society.

Dr. T. A. Lawler, President,
Dr. D. D. Barr, Sec.-Treas.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, March 3, 1920

1. A Lantern Slide Demonstration of Some End Results in Bone and Joint Surgery, and a Demonstration of the Author's Fracture Table....
.....Hugh McKenna.
2. Activities of the Medical Department of the Navy in the War.....
.....Admiral Braisted, Surg.-Gen., U. S. N.
General Discussion.

Regular Meeting, March 10, 1920

1. Some Impressions Concerning the Interpretation and Clinical Significance of the ElectrocardiogramW. W. Hamburger
Discussion.....James B. Herrick
2. The Consideration of the Toxic, Non-Exophthalmic Goiter, with lantern slide illustrations.....
.....Wm. D. Haggard, Nashville, Tenn.

Regular Meeting, March 17, 1920

1. Diseases of the Chest; Radiographic Studies in Shadow Density From the Standpoint of the Clinician.....Clarence L. Wheaton
DiscussionJohn Ritter
2. A Critical Study of Two Obscure Phases of Hepatic Syphilis.....
.....Udo J. Wile, Ann Arbor, Mich.
DiscussionMilton M. Portis

Regular Meeting, March 24, 1920

1. Ectopic Gestation—Comprehensive Review of the Literature—Case Report.....M. J. Seifert
DiscussionW. A. Newman Dorland
2. Sacral Anesthesia.....Irving Perrill
DiscussionM. L. Harris
3. The Care and Treatment of Premature and Congenitally Weak Infants.....Julius H. Hess
DiscussionJoseph Brennemann

CHICAGO LARYNGOLOGICAL SOCIETY

Meeting of Oct. 6, 1919, Continued

To date their cases of papilloma numbered 55. The younger the papilloma the harder it was to control, and he agreed with Dr. Pollock that the fewer the operations the better for the patient. He had removed papilloma in 16 cases without recurrence; the older the patient and the more pedunculated the papilloma the less likely the recurrence. He believed the best methods for the treatment of these conditions was a cauterizing or dissicating agent, such as fulguration or the acid nitrate of mercury, 62 per cent U. S. P. In his 55 cases two were females, the rest males. At the present time he considered the dissection of a papilloma from the larynx an unsuccessful procedure, in contradiction of what he had said five years ago. He now felt that some of these cases that had been under observation for two years were at this time worse than when he started on them. They had thus far not lost a case in the fifty-five and those that were cured were permanently cured and had tone to his voice.

DR. NORVAL H. PIERCE asked whether Dr. Lynch regarded suspension laryngoscopy as entirely replacing laryngofissure, and whether one could use fulguration during the general anesthetic.

DR. LYNCH said that he did not so consider it. He had mentioned the fact especially in consideration of malignant cases, and thought that if a procedure could best be done by laryngofissure, it should be done that way. The selection of the best method was for one's own judgment, but it was very illuminating to him to do a laryngofissure with a patient under suspension.

He used fulguration during general anesthesia, using the military apparatus with the mouthpiece over the mouth, but before they start the cautery this is removed. They use the same technic with fulguration that is used with the cautery point, and have had no accidents with either.

He had never seen a cure of an intralaryngeal tumor of the larynx by radium. He had not used a radium needle, as described by Dr. Freer, and had none at his disposal. He had used radium externally and intralaryngeally, applied in proximation to the tumor, on any number of occasions, and

had frequently applied it in the esophagus, but in not one of these could he record anything that he regarded as a cure or an improvement.

CHICAGO OPHTHALMOLOGICAL SOCIETY

A regular meeting was held October 13, 1919, with Dr. Heman H. Brown in the chair.

PAPILLOMA OF THE CORNEA

Dr. Edward F. Garraghan presented this case. The patient, a male, aged 70. Family history negative. No malignancy in family. Personal history: Married; wife living, good health; has nine children; has worked at stone cutting and has at times had slight injuries to eyes; does not trace present trouble to any particular injury to eye. He states that 13 months ago he first noticed a small red spot in corner of right eye which has gradually increased in size until at present it interferes with his vision. He was first seen by the speaker at the Illinois Eye and Ear Infirmary two weeks ago. On the nasal portion of the right eyeball he has a large granular looking mass extending from the inner angle of the eye and spreading out beneath the upper and lower lids, but not attached thereto. There is some slight attachment to the conjunctiva, but for the most part it is freely movable over this membrane. At the limbus there is a firm attachment which extends over the cornea for about three-quarters of its entire surface. The growth is pinkish white in color except a small portion near the lower border which is white. The tumor is very vascular and large vessels may be seen running over the surface of the tumor and through the bulbar conjunctiva from the inner canthus to the tumor. The tumor has a raspberry-like appearance and is granular in consistence. It is rather soft to touch and bleeds easily when bruised or cut. There has never been any pain, no ulceration nor any enlargement of the preauricular glands. The vision at present O.D. fingers 3 feet; O.S. 18/20. The tumor has all the characteristics of a papilloma which had its origin in the conjunctiva at the inner angle of the eye and has gradually grown until at present it involves the cornea also. A small section was taken for microscopical examination and the diagnosis of papilloma was made with the statement that there was not sufficient evidence to warrant a diagnosis of malignant change. The tumor will be completely removed and further microscopical examination will be made to ascertain without doubt the real nature of the growth.

CORRECTION OF IRIDODIALYSIS BY OPERATION

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., read a paper on this subject in which he stated that he had had occasion to operate three cases of traumatic iridodialysis, correct defects that were very annoying to the patients through double vision, movement of the torn iris, or objection to the double pupil from a cosmetic point of view.

In the first case, operated a number of years ago, the

patient had a large iridodialysis occasioned by a sharp blow upon the eye, and this was corrected by making a relatively large opening at the limbus, through which the bridge of iris was drawn, and to insure its permanent incarceration in the wound it was anchored by a stitch which also enclosed the conjunctival flap without leaving any iris exposed. In this case recovery was uneventful, and while the pupil was drawn upward to a considerable extent, yet the result was very satisfactory to the patient as well as to him. The eye remained perfectly quiet for a period of some three or four years, after which the patient was lost to observation.

The second case was a similar one, but the iris was not anchored in the wound in connection with the conjunctival stitch, and it went back into the anterior chamber, but was replaced later with satisfactory results, so far as known, though the patient was lost sight of soon after the operation.

The third case was of more recent occurrence, and in this case, with a large iridodialysis due to trauma, an effort was made to incarcerate the iris in the smallest possible wound at the limbus that would permit the introduction of iris forceps. De Wecker iris forceps were used, the bridge of iris was seized on its torn edge and drawn into the wound sufficiently so that there was but the slightest amount of prolapse visible. No stitch was introduced. The wound was touched with pure tincture of iodine, the eye dressed with sterile vaseline and the resulting effect was exceedingly gratifying in that it left the pupil but slightly deformed and corrected a condition that was very annoying to the patient—a young lady of twenty years of age. The operation was performed on May 17, 1919, and within ten days the eyeball was entirely free from inflammation or even irritation and it had remained so up to the present time.

To his way of thinking this operation should be more generally used for the correction of traumatic iridodialysis. It is preferable to the complete removal of the bridge of iris, which leaves large coloboma with its disfiguring effects, as well as an irritation through the passage of too much light into the eye, and when performed under our present methods of surgical technic it offers little or no evidence of being what many authors term "a risky procedure."

The point the author would make is that the opening at the limbus should be on the scleral side; it should be no larger than necessary for the entrance of a closed pair of De Wecker's iris forceps, and the bridge of iris drawn into the wound should not prolapse beyond the conjunctival flap. The speaker was under the impression that the application of pure tincture of iodine to the wound with its incarcerated iris had a tendency to prevent irritation, while at the same time it stimulated the reparative process.

FIVE CILIA IN THE ANTERIOR CHAMBER

Dr. Bulson also reported the following case: From the literature that is available it is evident that these cases are comparatively rare and cases in which more

than one cilium is found in the anterior chamber are rarer still. Accordingly, he felt that a report of the following case might be interesting:

The patient, Mr. G. H., aged 33, an employee of the Berghoff Brewing Company, was first seen on January 3, 1917, following an injury to the left eye by the rebounding of a stiff piece of wire which he was cutting. The patient stated that the vision was completely lost immediately following the injury. Examination disclosed a triangular wound of the cornea about five or six millimeters in length, to the inner side of the visual center. There was no prolapse of the iris, but the anterior chamber was so full of clotted blood that determination of the extent of the injury to the intraocular structures was not possible. An x-ray examination disclosed no foreign body and the patient was placed upon an expectant plan of treatment. The blood in the anterior chamber was slowly absorbed, but the eye continued to be irritable and painful. On January 15, or nearly two weeks after the injury, the blood and exudate in the anterior chamber had absorbed sufficiently to show dark streaks across the pupillary area, which by examination with the loupe were thought to be cilia, though the number seemed to discredit that assumption. As the eye was slowly improving, the expectant plan of treatment was continued, but on February 3—exactly one month after the injury—the anterior chamber was sufficiently clear to make certain a diagnosis of five eyelashes lying across the pupil and resting upon the anterior capsule of the lens and partly upon the lower pupillary margin of the iris. The patient was advised to have the eyelashes removed, but owing to his desire to have his employers provide him with compensation while off duty, as well as to pay any expenses incident to his operation, and a controversy between the employers and the liability insurance company concerning liability for this compensation, the matter was given no attention until May 2, or four months after the injury, when the patient was brought in for operation and with a report that the eye had continued to be irritable, with more or less lacrymation and photophobia. At that time the vision was 5/200, the impairment of vision being due to the corneal scar and a very slight cloudiness of the lens, the latter probably being caused in a measure by the irritation produced by the eyelashes, which were partly lying upon the anterior capsule. Under cocain anesthesia a small incision was made at the limbus, and with a pair of De Wecker's iris forceps five apparently full length cilia were removed intact from the anterior chamber, one by one. No undue reaction followed this operation, and the patient not only made an uneventful recovery, but the irritation, with attending photophobia and lacrymation, which had existed for weeks, disappeared, and at the last examination the vision was 5/200 or about as good as could be expected in view of the scar tissue and slight cloudiness of the lens. The eye had remained quiet up to the present writing, and there had been no development of a cyst or epidermal

tumor of the iris, which according to the literature on the subject seemed to be one of the possibilities.

DISCUSSION

DR. ROBERT VON DER HEYDT thought Dr. Bulson ought to be congratulated upon having undertaken these operations which were thought to be dangerous and which he had proven not to be.

He asked the essayist whether he did not use an acute angle keratome which he thought would be advisable in performing such an operation, and whether he had used atropin afterwards.

He would also like to know whether any localized atrophy of the iris had taken place in the reattached zone.

DR. CHARLES P. SMALL said he did not not quite understand how the iris was held in place after delivery. He would like to know where the final suture was used.

DR. HEMAN H. BROWN asked if the areas of the anterior capsule of the lens upon which the cilia had been riding for four months remained as they were at the time of the extension of the cilia, or did they clear up. He thought it was rather unusual for a foreign body to ride upon the capsule of the lens for four months, as irritable as cilia would be, without producing considerable disturbance.

DR. BULSON, in closing the discussion, said he considered the case of cilia in the anterior chamber sufficiently interesting to report, from the fact that his first experiences with anything of this kind was where he removed one lash.

To be continued

DE KALB COUNTY

Jan. 28, 1920, the De Kalb County Medical Society met at the Glidden House, De Kalb, Ill., for dinner. Eleven physicians were present. Following the dinner Dr. Harry B. Culver, of Chicago, gave a very interesting and instructive talk on "Renal Infections."

Clifford E. Smith, Secy-Treas.

Book Notices

We publish full lists of books received, but we feel under no obligation to review them all; however, so far as space permits, we will review those in which we think our readers are likely to be interested.

THE MEDICAL CLINICS OF NORTH AMERICA. Volume III, Number III (The Mayo Clinic Number, November, 1919). Octavo of 296 pages, 79 illustrations. Philadelphia and London: W. B. Saunders Company, 1920. Published bi-monthly. Price per clinic year: paper, \$12.00; cloth, \$16.00.

This is the Mayo number and contains clinics by the following: W. L. Benedict, report of a case of Retinitis Circinata, associated with tuberculosis. H. W. Woltman, Facial Paralysis; E. C. Kendall, the Chemical and Physiologic Nature of the Active Constituents of the Thyroid; W. M. Boothby, the Value of the Basal Metabolic Rate in the Treatment of Diseases of the Thyroid; F. A. Willius, the Pre-operative Treatment of Hyperthyroidism; P. P. Vinson, a Case of Cardiospasm with Dilatation and Angulation of the Esophagus; W. S. Lemon, two clinical cases; John H. Stokes, six clinical cases, and one clinical case each

by the following: D. M. Berkman, G. B. Eusterman, R. D. Mussey, J. A. H. Magoun, Jr., Leda J. Stacy, H. C. Bumpus, E. H. Weld, W. W. Bissell, H. E. March, A. Archibald, H. Z. Giffin, T. L. Szlapka, Winefred Ashby, and A. H. Sanford.

THE MEDICAL CLINICS OF NORTH AMERICA. Volume III, Number IV (The Boston Number, January, 1920). Octavo of 316 pages, 43 illustrations. Philadelphia and London: W. B. Saunders Company, 1920. Published Bi-Monthly. Price per clinic year: paper, \$12.00; cloth, \$16.00.

The following present clinics: Henry A. Christian, three cases; Elliott P. Joslin, two cases; William H. Roby, one case; Edwin A. Lock, one case; M. J. Rose-nau, two cases; James P. O'Hare, one case; C. W. McClure, one case; George R. Minot, two cases; Frederick T. Lord, one case; Paul D. White, one case; Roger I. Lee, one case; Francis M. Rackemann, one case; James H. Means, one case; Reginald Fitz, one case; Fritz B. Talbot, one case; Stanley Cobb, one case; Leslie H. Spooner, one case.

THE SURGICAL CLINICS OF CHICAGO. Volume IV, Number I (February, 1920). Octavo of 231 pages, 83 illustrations. Philadelphia and London: W. B. Saunders Company, 1920. Published Bi-Monthly: Price, per year, paper, \$12.00; cloth, \$16.00.

The February, 1920, volume of the Surgical Clinics of Chicago presents a wide variety of conditions and represents the surgical work of a number of Chicago hospitals. There are clinics by Drs. Arthur Dean Bevan, Wyllys Andrews, D. N. Eisendrath, Kellogg Speed, Dr. Gatewood, Phillip H. Kreusher, A. A. Strauss, Carl Beck, Carl B. Davis, L. L. McArthur, George D. J. Griffith, Benjamin F. Davis, G. L. McWhorter, E. L. Cornell and R. L. Moody.

THE MODEL T FORD CAR, INCLUDING FORDSON FARM TRACTOR F. A. STARTING AND LIGHTING. The Norman W. Henley Publishing Company, 2 W. 43th St., New York. Price, \$1.50.

Revised, enlarged and brought up to date—all new Ford improvements described.

This is the most complete and practical instruction book ever published on the Ford car and Fordson tractor. A high-grade, cloth-bound book, printed on the best paper, illustrated by specially made drawings and photographs. All parts of the Ford Model T car and Fordson tractor are described and illustrated in a comprehensive manner—nothing is left for the reader to guess at. The construction is fully treated and operating principle made clear to everyone. Complete instructions for driving and repairing are given. Every detail is treated in a non-technical, yet thorough manner.

This book is written especially for Ford drivers and owners by a recognized automobile engineering authority and an expert on the Ford, who has driven and repaired Ford cars for a number of years. He writes

for the average man in a practical way from actual knowledge. All parts of the Ford Model T car and Fordson tractor are described. All repair processes illustrated and fully explained.

Written so all can understand—no theory, no guess-work—authoritative—unbiased—instructive—complete.

THOUGHTS OF A PSYCHIATRIST ON THE WAR AND AFTER, by William B. White. 137 pages; New York. Paul B. Hoeber, Publisher. Price, \$1.75 net.

The author tries to explain the war on psychological principles. The book is divided into eight chapters as follows: I—The Social Perspective; II—The Psychology of Conflict—the Individual versus the Group; III—The Integration of Social Groups—Culture; IV—Psychological Effects of War; V—Psychological Causes of War; VI—Some Tendencies Quickened by War; VII—Individualism versus Socialism—Love and Hate; VIII—The Socially Handicapped.

The contents of the book is well thought out, the author expresses himself clearly. The work should prove of great value to the lay student.

EDUCATION IN WAR AND PEACE, by Stewart Paton, M. D., New York. Paul B. Hoeber, 67 E. 59th St. Price, \$1.50 net.

The book contains three chapters: I—The Human Behavior in War and Peace; II—War and Education; III—The Psychiatric Clinic and the Community. The author shows clearly that peace as well as war produces "shell shock." That those who are nervously unfit fill almshouses, reformatories, courts, hospitals and sanitariums, and the author shows the necessity of trained investigators competent to undertake the solution of these problems.

PHYSICAL RECONSTRUCTION AND ORTHOPEDICS, by Harry Eaton Stewart, M. D., authorized publication by the Surgeon General, U. S. Army; 275 pages, 64 illustrations. New York: Paul B. Hoeber. Price, \$3.75 net.

The book contains fifteen chapters, number I—Exercise; II—Baking, Hydrotherapy, Electrotherapy; III—Massage; IV—Vocational Therapy; V—Congenital Defects; VI—Infantile Paralysis; VII—The Spine Diseases and Injuries; VIII—Curvature of the Spine; IX—Joint Injuries and Arthritis; X—Diseases of Bones; XI and XII—Fractures and Dislocations; XIII—Foot Strain; XIV—Braces and Casts.

We quite agree with the author's preface that there is need for such reconstructions. That we have become a city dwelling nation, and are subject to the numerial deleterious influences which follow in the wake of city life and intense industrial competition. The book is very timely, well written and is worth the price.

Personals

Dr. Hugh N. MacKechnie has resigned from the medical department of Loyola University.

Dr. Frederick H. Lamb, Davenport, Iowa, has been appointed pathologist to St. Anthony's Hospital, Rock Island.

Dr. Effie L. Lobdell has been appointed professor of obstetrics in the Illinois Post-Graduate Medical School.

Dr. Edwin B. Godfrey, Springfield, sailed from New York, February 26, for the Balkan States for service as major in the Medical Corps of the American Red Cross.

Dr. Edmund Summers, Mattoon, while driving his automobile across the tracks of the Illinois Central Railroad near Mattoon, February 27, was struck by a train and seriously injured. He is under treatment in the Mattoon Hospital.

Dr. J. H. Donovan, Windsor, was seriously injured in a runaway accident March 1, and was taken to the Mattoon Hospital.

Dr. J. W. Bowling, Shawneetown, president of the Gallatin County Medical Society, announces that he is a candidate for delegate to the National Republican Convention to be held in Chicago in June.

Dr. T. J. Carmody, who organized Ambulance Company 34 at Fort Riley for service in France and was chief surgeon in the U. S. Eye, Ear, Nose and Throat service at Marseilles, has located in Danville.

News Notes

—Dr. Anna Sorna is said to have been indicted by the grand jury, March 18, for failure to report a case of scarlet fever.

—The contract has been let for the erection of a new modern hospital for the Cunningham Deaconess Home, Urbana.

—Dr. Logan Estes of Mattoon is said to have been arrested in Hillsboro by the authorities of Monticello on a charge of bank robbery.

—Dr. Karl F. M. Sandberg is said to have been indicted by a special grand jury, March 9, charged with violation of the Illinois sedition act.

—Dr. Oscar J. Brown, DeKalb, a leader in radicalism, is said to have been indicted by a special grand jury, March 9, charged with violation of the Illinois sedition act.

—Dr. Alois C. Rasmussen is said to have been

fined \$100 and costs by a police magistrate in Oak Park for failure to report a case of scarlet fever to the health commissioner of that village.

—Dr. George W. Alverson, Macomb, who was sentenced to life imprisonment in connection with the death of Lawrence Clugston, is said to have been taken to the state penitentiary, Joliet, March 16.

—The Department of Registration and Education, March 1, revoked the license of Dr. Warren D. Scott, Decatur, on the ground that he had been conducting offices in different parts of the country under the name "United Doctors."

—An informal dinner in honor of Dr. Udo J. Wile, Ann Arbor, was given at the University Club, March 17. After the dinner Dr. Wile presented a paper before the Chicago Medical Society on "A Critical Study of Two Obscure Phases of Hepatic Syphilis."

—The two-week drive for the Victory Hospital at Waukegan, which has been carried on under the leadership of Hon. C. C. Edwards, came to a close, March 22, with a total contribution of \$300,000. The institution, which will be for soldiers and sailors, will, it is said, be erected within two years.

—Motion pictures showing the surgical uses of Dichloramine-T. will be displayed at the April A. M. A. meeting at New Orleans by The Abbott Laboratories of Chicago. All physicians attending this meeting are cordially invited to see these and other interesting pictures of recent medical and surgical procedures.

—R. M. Carroll, charged with having issued promiscuously prescriptions for whisky, was arraigned, March 4, and held in bonds of \$2,000. It is claimed that this man issued at least 200 prescriptions a day and claimed that he charged "anywhere from \$1 to \$7 for the prescription, depending on the condition of the patient's cough."

—The city council of Peoria, March 2, unanimously provided an ordinance for the establishment of a municipal clinic for the treatment and isolation of venereal diseases. The ordinance provides for a commissioner of the dispensary with a salary of \$3,000 a year and with authority to declare quarantine if certain phases of the ordinance are not observed.

—The Medical Research Club of the University of Illinois held its fifty-second meeting, March 12, at the City Club. Prof. Louis Kahlenberg of the University of Wisconsin detailed "The Result of Experiments in the Passage of Substance Through the Skin by Osmosis," and Dr. Edward H. Ochsner spoke on "Osmosis in Relation to Clinical Medicine."

—The thirtieth annual meeting of the Robert Koch Society for the Study of Tuberculosis was held, March 25, at the City Club. Dr. Benjamin O. Orndoff spoke on "The Peritoneoscope in Diagnosis of the Diseases of the Abdomen"; Dr. Max Biesenthal discussed the "Use of Sodium Gynocardate 'A' in Pulmonary Tuberculosis," and Dr. James A. Britton spoke on "Occupation and Tuberculosis."

—Physicians of Belleville organized a Belleville branch of the St. Clair County Medical Society, March 2, to include members from the central and eastern parts of the county. The following officers were elected: President, Dr. B. H. Portuondo; secretary, Dr. W. L. Hanson; treasurer, Dr. D. R. Duey. Drs. Heber Robarts, J. C. Gunn and Henry Reis was appointed a committee on by-laws.

—As a result of a recent conference between Dr. C. St. Clair Drake, Springfield, state director of public health, and Miss Helen Fox, Washington, superintendent of the public health nursing service of the American Red Cross, every community in Illinois of more than 5,000 population will be provided with a community nurse. Miss Etta Lee Gowdy was chosen supervising nurse for the state, and Miss Minnie Ahrens for the Chicago district.

—Contracts have been signed turning over the Speedway Hospital to the U. S. Public Health Service. Congress has appropriated \$3,500,000 for the acquisition of this plant and \$1,500,000 in addition will probably be required before the institution is completed. The hospital site includes 320 acres, and the buildings are fireproof. The main building is 2,040 feet in length, 50 feet in width and four stories in height, and will accommodate between 2,000 and 2,500 patients. The institution will be completed within four months and will be known as the Broadview Hospital.

—With the breweries turned into factories for

the production of yeast and malt sugar, the crop of drunks has been so diminished that the Washingtonian Home of Chicago found it advisable to close its doors March 15. The old building was a landmark for medical students on the way from the west side colleges and hospitals and is said to have cared for 50,000 addicts to liquor and drugs since it was founded in 1863. The Keeley institution at Dwight has been leased to the U. S. Public Health Service for a hospital with accommodations for 200 patients.

DR. MARY CUSHMAN RICE

—The death of the former president of this club, Dr. Mary Cushman Rice, came as a shock to most of us. She was born in a little country town, Westford, twelve miles from Burlington, Vt. Her family on both sides was of New England Puritan stock. Robert Cushman, her mother's ancestor, chartered the Mayflower in Holland and sailed for America later on the Speedwell. He preached the first sermon published in America, a copy of which is in the doctor's home. Charlotte Cushman, the actress, belonged to this same family. Her father was a member of a family of twelve, eight of whom lived on adjoining farms. There were ten in the doctor's family, of which she was next to the youngest. Her father died when she was six years of age, and her fine, capable mother raised a family of nine children.

Later the home was moved to Burlington. Here Dr. Rice graduated from the high school and spent two years in the University of Vermont. Then her health failed and a long illness followed, six months of which were spent in a hospital. Her interest in medicine dates from her long stay in the hospital and continued to her death. She graduated in the Women's Medical School of the N. W., in the early 90's. She was in general practice for five years, after which she became interested in her specialty.

She exemplified the virtues of the Puritan. She was a quiet, modest, sensitive woman of deep feeling, and a marked New England reserve. I knew her to have been a devoted daughter, sister and friend. In her family life she was frank, very kind, even-tempered and responsive, a good housekeeper, and all-round woman. As a physician, she was careful, efficient and most reliable.

In her death the community has lost a fine example of womanhood; this club a valued member; and the profession of medicine an excellent physician.—*Rachel H. Carr in Bulletin, Medical Women's Club.*

Marriages

EFFIE LOUISE ABBOTT to Mr. Gilbert Wilson Morton, both of Jacksonville, Ill., February 21.

THOMAS LAWTON, Hinsdale, Ill., to Miss Elizabeth A. Stage of Davenport, Iowa, March 16.

BENJAMIN HARRISON KING to Mrs. Amanda Baker, both of Granite City, Ill., February 14.

Deaths

MARK ROWE, Paris, Ill.; Eclectic Medical Institute, Cincinnati, 1866; aged 85; died, February 14, from bronchitis.

BELLE OGDEN CONSTANT, Chicago; Hahnemann Medical College, Chicago, 1917; aged 49; died, February 19, from osteosarcoma.

JAMES EDWARD HARPER, Assumption, Ill.; Chicago Homeopathic Medical College, 1899; aged 50; died, February 21, from sarcoma.

JOHN H. MACDONALD, Chicago; Jenner Medical College, 1898; aged 64; died, March 16, from carcinoma of the mouth and throat.

MICHAEL F. MURRAY, Chicago, Rush Medical College, 1891; aged 59; died, March 3, from gangrene of the foot following arteritis obliterans.

ZENAS CATHER CLAYTON, Chicago; Kansas City Hospital College of Medicine, Kansas City, Mo., 1885; aged 62; died, February 10, from heart disease.

HENRY A. PHILLIPS, Chicago; Bennett Medical College, 1871; aged 75; a member of the Illinois State Medical Society; died, March 7, from pneumonia.

JAMES H. SHEPPERD, Peoria, Ill.; Meharry Medical College, Nashville, Tenn., 1899; aged 54; Captain, M. C., Ill. N. G., and assigned to the Eighth Infantry; died, February 10.

THOMAS WALTER SCOTT, Rushville, Ill.; Missouri Medical College, St. Louis, 1884; a Fellow A. M. A.; aged 71; once mayor of Rushville; died, February 19, from heart disease.

THOMAS R. PLUMER, Farmington, Ill. (License, years of practice, Illinois, 1873); a member of the Illinois State Medical Society; a practitioner for sixty years; died about March 1.

JAMES F. HARRIS, Ogden, Ill.; Kentucky School of Medicine, Louisville, 1877; a Fellow A. M. A.; aged 67; a member of the Illinois State Medical Society; died, February 28, from influenza.

WALTER McTAGGART, Harrisburg, Ill.; College of Physicians and Surgeons, Keokuk, Ia., 1884; aged 58; died at the home of his daughter, Mrs. E. E. Edmondson, at Mt. Vernon, from a septic infection, March 11.

KIMBALL W. LELAND, Utica, Ill.; Bennett Medical College, Chicago, 1879; Rush Medical College, Chicago, 1892; president of the board of directors of the La Salle County Tuberculosis Sanitarium; died, March 12.

ALFRED HUGH FOWLER, Chicago, Rush Medical College, 1904; aged 42; a member of the Illinois State Medical Society; died in Wesley Memorial Hospital, Chicago, March 3, from chronic nephritis, complicated with cholecystitis and hepatitis.

GEORGE WILLIAM BROCK, Atlanta, Ill.; Northwestern University Medical School, Chicago, 1910; a Fellow A. M. A.; aged 41; who served as captain, M. R. C., U. S. Army, during the World War; and was discharged, March 18, 1919; died, February 17, from an infection following influenza.

ALONZO FESTUS BURNHAM, Quincy, Ill.; Rush Medical College, 1878; a Fellow A. M. A.; aged 66; for many years connected with the state hospitals at Jacksonville and Bartonville, and more recently physician at the Old Soldiers' and Sailors Home, Quincy; died February 20, from bronchopneumonia.

FLAVEL SHURTLIFF, Pekin, Ill.; Rush Medical College, 1865; aged 78; assistant surgeon of U. S. Volunteers during the Civil War; from 1877 to 1891 county clerk of Tazewell; for twenty years one of the publishers of the *Pekin Times*; vice-president of the Farmers National Bank for many years and a director in the Herget National Bank, Pekin; died, February 24.

HARRY RODGERS LEMEN, Alton, Ill.; Washington University, St. Louis, 1893; aged 49; Captain M. R. C., U. S. Army; a veteran of the Spanish-American War; later serving in the Philippine Islands, in the Boxer Rebellion in China, and in the Russo-Japanese War; while driving his automobile over a grade crossing in Alton, February 21, was struck by a train and instantly killed.

GEORGE TURNER MEACHAM, Taylorville, Ill.; Rush Medical College, 1893; aged 49; Lieutenant, M. R. C., U. S. Army, and discharged January 11, 1919; a member of the Illinois State Medical Society; formerly an alderman of Taylorville; died, March 8, from the effects of carbolic acid self-administered, it is believed, with suicidal intent, while despondent on account of ill health.

ALBERT WEIL, Peoria, Ill.; Rush Medical College, 1893; a Fellow A. M. A.; aged 53; a member of the staff of the Deaconess and Proctor hospitals, also a druggist; county physician of Peoria County for sixteen years; once health commissioner of Peoria; local surgeon of the Chicago and Alton, Burlington, Peoria and Pekin Terminal and Illinois Traction systems; died, February 20, from heart disease.

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Original Articles

DIAGNOSIS OF ECTOPIC PREGNANCY*

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University of Illinois

CHICAGO

From December 6, 1912, to September 4, 1919, 183 histories were filed in the library of the Cook County Hospital as extra-uterine gestation. This paper is the record of a study of these cases from the diagnostic standpoint.

Fifteen cases are rejected. In four operation failed to prove the diagnosis; in one observation for several days failed to prove it; in ten the clinical evidence, in the absence of operation or autopsy, I do not deem sufficient to prove satisfactorily that they were truly cases of ectopic gestation, although my belief is that nearly all of them were correctly diagnosed.

Of the 183 patients, seventeen were not operated upon. In three cases the clinical evidence was so strong that the diagnosis seems proved; in four the autopsy proved it; and in ten (as above), the clinical evidence was not regarded as sufficient proof. The diagnosis is reasonably certain in the remaining 168 cases.

The *results* in the series of 168 cases of ectopic gestation were as follows: thirteen died; eleven were discharged improved; four in the same condition as on entrance; 140 recovered.

The patients were of the following *ages*; under 20, two; 20 to 25, thirty-four; 26 to 30, sixty-four; 31 to 40, sixty-three; over 40, five. Thus, over three-fourths of the women were between the ages of 26 and 40.

One hundred forty-six of the patients, (over seven-eighths of all), were married; ten were single; ten were widows; one was divorced; one not recorded.

One hundred thirty-four of the women were *multiparae*; in eleven the former pregnancies had ended in early abortions, nineteen were in their

first pregnancy; and in four the parity was not recorded. Twenty-two had been sterile for five years or more before the present pregnancy. Previous sterility for an extended period prior to the ectopic gestation is often mentioned at a diagnostic element of some moment in *multiparae*. Only sixteen per cent of our *multiparae* gave histories of sterility for five years or more before the ectopic pregnancy. While this is doubtless a larger percentage than occurs in *multiparae* in general, yet it is not enough to make the point more than a minor one. Four of our patients gave histories of former ectopic pregnancy. Whatever may be the cause of ectopic implantation of the ovum, it seems likely that it acts to favor another tubal gestation or to prevent pregnancy altogether.

The *period of gestation* was estimated in eighty cases. In eighteen cases the period was taken to be under four weeks; in forty-three between four and twelve weeks; in fourteen between three and five months; in three between five and six months; in two at full term.

SYMPTOMATOLOGY

Our results from a study of the symptoms differ somewhat from the generally accepted clinical pictures. *Sudden onset of severe pain* in the abdomen, usually in a circumscribed spot, was noted in seventy-five instances. It occurred in one of the unruptured cases, namely eight per cent; in ten of the cases of tubal abortion, namely, thirty-seven per cent; in nearly fifty-seven per cent of the ruptured cases. This proportion in the three types of ectopic pregnancy agrees pretty well with the usual observation, but the general impression from the literature leads one to expect a much larger total among all cases.

Colicky pains in the abdomen, usually in the lower portion, are mentioned in the histories of fifty-nine cases. Four occurred in unruptured cases, (thirty per cent); fifteen in tubal abortions, (fifty-five per cent); and forty in ruptured cases, (thirty-one per cent). These pains were rather variable in locality, intensity and fre-

*Read before the Chicago Medical Society Nov. 12, 1919.

quency. The location was most often in one of the iliac regions or midway in the lower part of the abdomen. Sometimes the colic was referred to the opposite side from that afterwards proved to be the seat of the lesion.

It is interesting to note that only sixty-four patients gave a history of having *missed one or more menstruations*, although ten more had other menstrual disturbances. Since persistence of menstrual flow is rare in normal pregnancy, it follows that implantation of the ovum outside of the uterus must have less inhibitory effect upon the phenomena of the catamenia than normal implantation.

External hemorrhage, that is to say, bleeding from the uterine mucosa, mostly unassociated with menstruation, occurred in 108 cases. Thus it appears that the uterine decidua often takes on the attributes of abortion when the ovum is extra-uterine. Symptoms and physical signs of *internal hemorrhage* occurred in sixty-five cases. This is apart from the finding of blood in the abdominal cavity at operation or autopsy. Forty-seven patients gave a history or showed signs after entrance of *fainting* or severe vertigo. Not all of these had tubal abortion or rupture. Twenty-nine women complained of having *chills* before entrance; sixteen of feverish feelings.

Nausea and vomiting associated with the attacks of pain occurred in seventy-nine cases; apparently as signs of pregnancy in eleven.

Abdominal pain of some severity occurred 143 times. A few patients complained of pain in more than one area of the abdomen. Pain diffused throughout the belly generally occurred thirty times; in the left lower quadrant thirty-three times; in the lower abdomen fifty-two times. Thirty patients had pains radiating to other parts of the abdomen than the original attack, or to the chest, hips, thighs or lumbar back.

Urinary disturbances occurred sixty-four times; pain or burning on urination forty-eight times and nocturia or frequent micturition sixteen times. It appears that such urinary disturbances are rather less frequent in ectopic than in uterine pregnancies.

Other symptoms and physical signs usually considered as *indicative of early pregnancy*, such as swelling or tingling of the breasts, discoloration of the areolae, blueness of the vestibule and vagina, presence of colostrum and enlarged areo-

lar follicles, occurred in only forty-four cases. The conclusion seems justified that the so-called genetic reaction is less evident in pregnancy outside of the uterus than within.

PHYSICAL SIGNS

General physical signs noted after entrance to the hospital, such as pallor, rapidity of pulse and respiration, anxious expression of the face, sweating, cold skin, cyanosis and the like, were of little value in differentiating from other abdominal ailments, but were useful as indices of shock, hemorrhage or pain and as evidences of severity for purposes of prognosis.

There was distension of the *abdomen* in twenty-eight cases; rigidity in eighteen, tenderness in the lower portion in forty-six; tenderness in the right lower quadrant in forty-four; tenderness in the left lower quadrant in thirty; tenderness throughout the abdomen in nineteen. One or more masses were palpable through the belly wall in twenty-six cases; there was dullness in the flanks changing with the patient's position in thirty cases, in all of which rupture or tubal abortion had occurred with considerable intraperitoneal hemorrhage.

Vaginal examination was not made in twelve instances or not recorded. A few of these cases were not so examined because they came in moribund. The uterus was found to be enlarged in forty-six cases, tender in twenty-three; a mass was palpable in the culdesac in forty-five cases, in one of the fornices in eighty-two, and distinguished as tubal in three. Vaginal examination is recorded as negative in three cases. Pulsation of the uterine artery was felt in three cases. This sign is often mentioned in the literature as pathognomonic, but it seems to occur so seldom as to be of little value.

BLOOD EXAMINATION

The *white blood count* was taken in 107 cases. The leucocytes were found to number less than 10,000 in thirty-two cases; 10,000 to 15,000 in thirty-six; 16,000 to 20,000 in sixteen; over 21,000 in nineteen. In several instances the leucocyte count ran over 40,000, usually in the cases of great hemorrhage or of infection of the gestation sac.

TEMPERATURE

The temperature on admission had some diagnostic bearing. It was below normal in four

cases and normal in seventy, less than forty-two per cent. It was 99 to 100 in fifty-four cases, 100 to 101 in thirty-one, 101 to 102 in nine. The cases with subnormal temperature were brought into the ward in shock. It will be noted that there was a moderate elevation of temperature in fifty-six per cent of our cases. Since only a few were in a condition of active infection, it follows that there must be some other explanation of the rise in temperature. Probably this will be found in aseptic absorption from the blood extravasated into the peritoneal cavity, sub-peritoneal areolar spaces and from the gestation sac itself. Blood was found, in greater or less amount, in the abdominal cavity at operation or autopsy in 133 cases of ruptured or aborted gestation sacs.

On entering the County Hospital the patient passes through the examining room, where a snap diagnosis is made and whence the patient is sent as quickly as possible to the proper ward. The *diagnosis in the examining room* of our 168 cases of extra-uterine gestation, was correctly made in only twenty-six. The diagnosis was made of some form of abortion or some other obstetrical disorder in thirty-two cases, fifty-eight in all; eighty-two cases were diagnosed as salpingitis or some other gynecological complaint; twenty-eight cases were sent to the female surgical ward with diagnosis of appendicitis or some other surgical ailment. Therefore, I am privileged to offer my thanks to my surgical and gynecological colleagues in the hospital for the opportunity of completing this series of cases of ectopic pregnancy.

Diagnosis before operation in our series was cassayed in 151 cases; it was not recorded in seventeen cases. Diagnosis of ectopic pregnancy was made in forty-three instances, of ectopic pregnancy with rupture in forty-six, of infected ectopic gestation in one; a total of ninety cases correctly diagnosed before operation. Among these ninety cases were six which operation proved to be unruptured. Six unruptured cases were incorrectly diagnosed as something else than ectopic pregnancy; the thirteenth unruptured case has no diagnosis recorded before operation.

Acute tubal infection was diagnosed in six cases, chronic in seven, tubal abscess in fourteen. These diagnoses were not all incorrect, inasmuch

as in eighteen cases pelvic infection or its results was found at the operation, in addition to the ectopic gestation.

The diagnosis in seven cases was uterine abortion; in one instance this was correct, because there was a recent abortion in addition to the ectopic pregnancy; in most of the others the external hemorrhage and the character of the pains resembled uterine abortion more than tubal.

Neoplasms of ovary or tube were diagnosed seven times. Uterine fibroids were encountered at operation in two cases, and ovarian cysts in seven, besides the ectopic condition. Five cases were considered to be acute appendicitis before operation, and two cases chronic infection of the appendix. In eight cases of our ectopic series acute or chronic appendicitis was also found at operation.

DIFFERENTIAL DIAGNOSIS OF ECTOPIC GESTATION CASES.

Fourteen ectopic gestation sacs in our series were *not ruptured*; twenty-seven were cases of *tubal abortion*; 129 gestation sacs had *ruptured*. This makes a total of 170, but two patients had bilateral ectopic pregnancy; one having the right tube ruptured and the left one intact; one having both tubes ruptured. From a diagnostic standpoint these two patients must be counted as having had ruptured ectopic sacs, because the symptoms and physical signs due to the one unruptured tube would be over-shadowed by the more serious condition in the ruptured tube.

It is instructive to study the relation of unruptured, aborted and ruptured ectopic gestation sacs to some of the common symptoms or physical signs.

External hemorrhage occurred in 108 cases in all. In the thirteen unruptured cases this hemorrhage was much in four, slight in four, and none in five; thirty-one per cent., thirty-one per cent., and thirty-eight per cent., respectively. In the twenty-seven cases of tubal abortion the hemorrhage was much in thirteen, slight in nine, and none in five; forty-eight per cent., thirty-three per cent., and nineteen per cent., respectively. In the 128 ruptured cases the hemorrhage was much in forty, slight in thirty-six, none in fifty-two; thirty-one per cent., twenty-eight per cent., and forty per cent., respectively. Thus one sees that the proportions ran fairly even between the intact and the ruptured cases, while in the abor-

tions, there was a considerably greater proportion with hemorrhage and less without hemorrhage.

External hemorrhage is a diagnostic point of some value in ectopic pregnancy *per se*, being much more frequent than in salpingitis, ovarian cyst, sactosalpinx and uterine displacements. It is probably not even exceeded in fibroids, but is less frequent than in cases of uterine abortion. In connection with localized pain and tenderness in the lower abdomen, cessation of menses and suggestion of a mass in one of the fornices or in the culdesac, external hemorrhage bears great diagnostic weight in ectopic pregnancy.

The *leucocyte count* was taken in 107 cases in all. Of the unruptured cases the white blood count was under 10,000 in four (sixty-seven per cent.); 10,000 to 15,000 in one (thirty-three per cent.); not taken in eight. Of the tubal abortions the count was under 10,000 in eleven (fifty-two per cent.); 10,000 to 15,000 in eight (thirty-eight per cent.); 16,000 to 20,000 in two (ten per cent.); not taken in six. Of the ruptured cases it was under 10,000 in twenty (twenty-four per cent.); 10,000 to 15,000 in thirty-four (forty-one per cent.); 16,000 to 20,000 in twelve (fifteen per cent.); over 21,000 in sixteen (twenty per cent.); not taken in forty-six. To recapitulate: thirty-three per cent. of the unruptured cases examined showed a leucocytosis slightly above normal; forty-eight per cent. of the tubal abortion cases showed above normal; seventy-six per cent. of the ruptured cases showed leucocytosis above normal; forty-one per cent. slightly above fifteen per cent. highly, and twenty per cent. excessively.

In none of the unruptured cases was there any *internal hemorrhage*, as shown by blood in the abdomen at operation or autopsy. Neither was there any external hemorrhage excessive enough to have caused symptoms or physical signs. In only one case was there leucocytosis over 10,000 and that rated 11,500, only slightly higher than normal.

In the cases of tubal abortion in which the internal hemorrhage was found to be much, the white blood count was under 10,000 in five; 10,000 to 15,000 in three. In the cases in which hemorrhage into the abdomen was slight, the white count was under 10,000 in three; 10,000 to 15,000 in four; 16,000 to 20,00 in one. Five of the abortion cases in which the white blood count was taken did not show any internal hem-

orrhage. In those cases the count was under 10,000 in three. Therefore, two, which had an increased leucocytosis, must be explained in one by the fact that the gestation sac was infected and contained pus, and in the other, by absorption of blood extravasated into the lumen and tissues of the aborted tube.

In the ruptured cases in which the internal hemorrhage was much, the white blood count was under 10,000 in sixteen; 10,000 to 15,000 in twenty-two; 16,000 to 20,000 in ten; over 20,000 in fourteen. In the cases where the hemorrhage was slight, the white count was under 10,000 in one; 10,000 to 15,000 in seven; 16,000 to 20,000 in one. Ten of the ruptured cases in which the white blood count was taken showed no internal hemorrhage. In three of these cases the count was under 10,000, therefore, seven, which had an increased leucocytosis, must be explained otherwise than by the content of blood in the abdominal cavity.

The *frequency of ectopic pregnancy* has been estimated by Spalding (*Journal A. M. A.*, lxx, 1156). Among the 1,704 pregnant women in the clinics of Leland Stanford, he found thirteen ectopic cases, that is, one in 131 pregnancies. If this may be taken as an average ratio, we can see how important it is to be able to make a diagnosis of a dangerous condition which is only a little less frequent than twins. Wynne (in the *Johns Hopkins Bulletin*, Jan., 1919), analyzed 303 cases of ectopic pregnancy, which amounted to one and three-tenths per cent. of 22,688 gynecological patients.

SUMMARY.

In making a summary of the analysis of our 168 cases, we find that over three-fourths of our patients were between the ages of twenty-six and forty; two-fifths between twenty-five and thirty. Thus the middle decade of the thirty year period of productive activity in woman seems to be the most favorable for extrauterine gestation.

One hundred and forty-five of our patients had been pregnant before, 134 having gone to full term at least once. The point of previous sterility seems, from our cases, to be a minor one for diagnostic purposes.

Sudden onset of abdominal pain occurred in less than half of our cases, least in the unruptured, next in the tubal abortion, and most frequently in the ruptured. Colicky pains in the lower abdomen were noted in a little more than

one-third. Abdominal tenderness, usually in the lower portion, was recorded 139 times.

Vaginal examination showed the uterus enlarged in nearly one-third of the cases; a palpable mass, usually tender, in one of the fornices or culdesac in over two-thirds.

Temperature on entrance was above 99 in nearly three-fifths of our patients. Fever seems to be an element due to absorption from blood deposits in the abdomen, in the tube or in the pelvic areolar tissue. It was noted more often and rose higher where the internal hemorrhage was greatest.

Diagnosis is apparently easier the more severe the symptoms in a given case. However, in our series, the diagnosis of ectopic was made in nearly half of the unruptured cases. Polak, of Brooklyn (*Long Island Medical Journal*, xii, 121), takes the stand that eighty-five per cent. of unruptured ectopic gestation cases and of tubal abortions should be diagnosed before operation. He speaks for a careful history and a thorough physical examination in each instance.

Judging from our series and from my general personal experience, I conclude that the diagnosis of unruptured extrauterine pregnancy is not one of the difficult feats of obstetrics. By this statement I mean that it is not so very difficult to make a diagnosis of ectopic pregnancy before rupture or abortion. It is less easy to differentiate in an individual case between unruptured, ruptured, and aborted cases. Every case of aborted or ruptured ectopic gestation was for a time unruptured and probably could, in a fair proportion of instances, have been diagnosed if the woman had come under the care of a competent obstetrician or gynecologist in the early stages. Often she has no symptoms which cause her to seek professional advice at all before the sac has become aborted or ruptured.

In a certain number of unruptured cases, symptoms cause the patient to seek relief. The cardinal symptom of such cases is pain, often severe, in one of the lower abdominal quadrants. The chief physical sign is a tender mass in one of the fornices, usually that on the same side as the pain. It will be remembered that, in our cases, bleeding through the vagina was about the same in the unruptured and the ruptured cases, but more frequent and copious in the cases of tubal abortion. The practical value of diagnos-

ing tubal abortion from tubal rupture is not very great because, while very severe hemorrhage is less common in abortion than in rupture, the indicated treatment in all varieties of ectopic pregnancy is early operation, except a few cases of shock from very copious internal hemorrhage.

Some authorities recommend, in case of doubt, to make a posterior colpotomy to ascertain whether blood is in the culdesac. I oppose this because, if blood is present, there is probably a ruptured or an aborted tubal pregnancy which is more difficult to treat from that route, and, if no blood is found in the culdesac, one is still not sure whether there is not an ectopic sac just the same. Many of our aborted cases and some of our ruptured cases showed no blood in the abdominal cavity at the operation.

POST-PARTUM MANAGEMENT*

EUGENE CARY, S. B., M. D.

CHICAGO

While there is nothing radically new in the management of the puerperium, still the fact remains that many pre-historic customs of midwifery are still in vogue. Examples of this are the use of castor oil post-partum, instructions to the patient not to, under any circumstances, turn from the dorsal position, the application of a tight abdominal binder and many other old traditions.

The author's object in caring for the parturient during the puerperium as well as during labor is to simulate Nature as nearly as possible. During labor allow "Mother Nature" to do all the work and only assist when you are sure that she has failed and even then don't be in a hurry.

After delivery restore the birth canal to as near normal as possible, repairing all lacerations in a painstaking way and let it be said here that a non-absorbable suture material, in the long run, will give a much larger per cent of successes than if an absorbable cat-gut be used, for some overlook the fact that the secretions of the birth canal will digest twenty day chromic cat-gut in from three to five days. From this it is evident that only the deeper strands are effective and it may be only a matter of luck whether the repair holds or not.

It is also important, as Dudley¹ emphasized

*Read before the North Side Branch, Chicago Medical Society, Nov. 14, 1919.

1. E. C. Dudley: *Chicago Clinical Review*, April, 1894.

as long ago as 1894, to be sure and "never attempt the primary or secondary closure of a torn perineum until you have fully and clearly demonstrated and appreciated the direction or directions and extent of the injury." Only last week was the author able to apply this teaching, when a perineum was closed by two distinct lines of suture, bringing the structures back to their normal position.

At this time also, an examination of the rectum and external sphincter is advisable, for as you are all aware, even after a normal delivery, there may be a certain degree of prolapse of the congested and stretched bowel through the relaxed sphincter. This condition is the main etiological factor for hemorrhoids that may cause the patient considerable annoyance during the days or weeks to come. This prolapsus through the external sphincter soon becomes the seat of a passive congestion due to the obstruction of the return circulation and should be avoided. This can easily be accomplished after all perineal repairs are finished, by merely forcing the prolapsed bowel back through the sphincter by pressure applied with a conical shaped pledget of "Case cotton" wrung out of lysol solution. This procedure is very simple and gives gratifying results.

Another condition which may be mentioned here is retained membranes. It is the author's opinion that under no circumstances should any effort be made to remove them as it is a physical impossibility to remove all and at best one is only introducing infection into the uterus. Let them alone! In one case that the author delivered, the placenta, which was small and friable, was expelled without even a fringe of chorion attached. This caused the interne present, great consternation, and he was all for preparing for a major operation immediately. He was assured that there was no cause for worry and the patient made an uneventful recovery. Roeder² cites 1476 cases of retained membranes, of which 1307 were treated expectantly and 169 actively. In the first class the women were given ergot and vaginal douches twice daily and ice was applied to the abdomen. The 169 women had the membranes removed, partly digitally and partly instrumentally, and this followed by a lysol-alcohol douche. Among the women treated expectantly fever occurred in 21.4 per cent and death

in 0.23 per cent; of those treated actively, fever occurred in 42 per cent and death in 3.00 per cent. These figures speak for themselves and it is the author's firm conviction that if the douches had been dispensed with, the fever occurring in the 21.4 per cent could have been greatly reduced. In short, let these patients absolutely alone. If you must do something, elevate the head of the bed a little.

After a woman has delivered, it is conceded by everyone that she should spend a certain time in bed, but this does not mean that she should remain on her back for two or more weeks. By all means, no! She should at once be cautioned not to remain on her back any more than is absolutely necessary, for who ever saw a parturient animal lying with all four legs heavenward? It is against all the laws of Nature. The author feels just as strongly against the continued use of the abdominal binder. An abdominal binder may feel grateful immediately after delivery to sustain the abdominal viscera and give a sense of support, which seems lacking after the tension of the latter months of pregnancy, but its need is only transitory and one or two days will suffice.

Let us for a moment see what happens when a firm binder is applied and the woman is compelled to remain on her back for two weeks or more. First there is pressure on the sigmoid and rectum, causing an obstruction or at least a retardation of fecal material, namely, constipation. Second, there is traction or compression of the uterine and ovarian veins, causing more or less stasis and resultant uterine congestion, which retards involution. Then there is constant tension on the utero-sacral ligaments and traction on the round ligaments, with a tendency for the heavy uterus to gravitate into the pelvis with the cervix approaching the introitus, prolapsus.

Now, if this same woman has her binder removed and is allowed to lie on her side in a Simm's latero-prone position or on her abdomen, what happens? The heavy uterus gravitates out of the pelvis, the pressure on the bowel and ovarian vessel is relieved, the cervix points backwards, removing the tension on the utero-sacrals and the fundus inclines forward, relaxing the round ligaments. Thus involution in antifixion is unhindered.

Next comes the consideration of catharsis. There is no reason why a woman, after a normal

2. Roeder: *Monatschrift für Geburtschilfe und Gynäkologie*, Vol. 35, 6.

or even after a forceps delivery, should develop an ilcus, so why purge her? The only reason why she cannot have a normal bowel movement is the fact that there has been enough trauma to the rectum, so that for a short time its irritability has been diminished, and if this is overcome, constipation is avoided. The author's method is to begin on the second day the administration of an ounce of liquid petrolatum with orange juice twice daily, and to arouse the rectum and sigmoid from its lethargy by a small soap suds enema whenever necessary. It may be necessary to give this soap-sud enema daily for the first week, but diminishing quantities daily will suffice.

Then again catharsis checks or arrests completely the work of milk production in the mammary glands, and Kettner³ states that "A dose of castor oil or any other purge may turn the scale against the normal development of lactation, especially if the child does not take hold well."

When should the child nurse? As soon as the mother has had a good rest after delivery and from then on, every four hours. This early assumption of nursing is of four-fold value, for it lessens any tendency to postpartum hemorrhage and expels clots from the uterus by stimulation; it teaches the child to nurse early; it stimulates milk production; and lastly, the colostrum is Nature's cathartic and cleans the meconium out of the infant's intestinal canal.

At this period the mother has all she can do to recover from the exhaustion concomitant with the labor and the manufacture of milk, to say nothing of having to accustom herself to a new environment, so that it should be a set rule that she is to see no visitors until the milk flow has been established and the child has begun to gain.

The breasts need little care, except that the nipples should be cleansed with a boric acid solution before and after each nursing, and in the interim, covered by a sterile gauze. If the breasts are pendulous and painful, they may be supported by a light binder in the form of a loosely fitting sling, but in no case should the tight breast binder be used. It is essential for the future milk supply that there be no compression and there should be free access of air. Often, during the period of engorgement the breasts become hard and painful, but this is only a

venous congestion and not a retention of milk, so that twenty minutes steaming with a bath towel wrung out of hot water will allay all symptoms. In rare instances it is necessary to follow this by a deep massage toward the axilla in order to re-establish the venous flow. Following this technique the author has never had a breast abscess. Note.—Since going to press, one has developed.

If the nipples become tender or cracked, it is customary to apply a nearly saturated solution of magnesium sulphate on a large dressing covered with oil silk. This dressing, however, must not be allowed to dry out or a dermatitis will ensue. Often a lead nipple shield will suffice.

On the second day the patient is allowed to have the back-rest up for meals and on the morning of the third day, resistant exercises are instigated. These the author considers most important. They consist of extension and flexion of the arm by the nurse, the patient resisting and the same with the legs, taking them one at a time. The object of this is to restore muscular tone and nearly every muscle in the body is brought into play in order to overcome the resistance offered. This naturally increases the circulation and most patients state that aside from the feeling of "well-being" they notice that there is not nearly the tendency to constipation.

Any time after the eighth day the patient is allowed to leave the bed and sit in a chair nearby, being cautioned not to stay up long enough to become fatigued. This rule, however, does not hold in cases where lochia is very profuse or where there have been extensive perineal repairs. This leaving the bed early has been advocated by Kustner and Kronig⁴ with brilliant results.

It is the custom of the author not to restrict the diet of these parturient cases, but rather to give them a full nitrogenous diet, because, as has been pointed out by Seitz,⁵ while during pregnancy there is a marked increase in nitrogen accumulation, after delivery there is a deficiency of the albuminoid assimilation.

For fear that this discussion become tiresome, the author wishes to state briefly that in his opinion the postpartum period should be considered as lasting for six or eight weeks after the birth of the child and that during this period the pa-

3. A. H. Kettner: *Med. Klinik*, Oct. 29, 1916.

4. Seitz: *Deutsche med. wochenschr.*, Sept. 5, 1912.

5. Seitz: *Deutsche med. wochenschr.*, Sept. 5, 1912.

tient should be under observation. On the twelfth day the patient is allowed to go home, after having received instructions to exercise the abdominal muscles by elevating the legs to a right angle while lying flat on her back, morning and night. This period of exercise is followed by the assumption of the knee-chest position for eight to ten minutes, care being taken to inflate the vagina by separation of the nates. At first thought it would seem as though these leg exercises would tend to crowd the viscera into the pelvis, but in actual practice the reverse is true, for during the lifting there is a negative pressure established in the pelvis that is demonstrable. The knee-chest position speaks for itself.

During the fifth week the patient returns to the office for examination, at which time the condition of the perineum and cervix is noted and the position of the uterus is determined. In a certain percentage of cases the uterus is retroposed, the fundus lying back of the mid-horizontal line and of a boggy consistency. If these displacements are now corrected and the uterus held in place for a time, involution will occur normally and the woman will suffer no further discomfort. This is accomplished in either one of two ways; after restoring the uterus to its normal position, it is either held there by a wool tampon for from thirty-six to forty-eight hours, after which a douche is taken, or it is held in place by a properly fitted pessary for a period of from two to four weeks.

30 North Michigan Avenue.

MERCURY IN THE TREATMENT OF SYPHILIS

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CHICAGO

The subject of the use of mercury in the treatment of syphilis is of course no new item, and there is no intention to convey this impression. The purpose of this paper is, however, to touch upon a different phase of its administration and to call to the attention of the profession a new preparation, one that appears to me after a trial of almost a year, to take as important a place in the armamentarium of antiluetic medication as neoarsphenamin.

Briefly summarized, the methods in vogue con-

sist of the unsatisfactory oral use of mercury pellets, the uncertain dosage and inconvenient method of mercury rubs, the doubtful absorbability of rectal suppository of blue ointment, the painful but effective soluble and insoluble intramuscular mercury injections. Measured dosages have been given intravenously and painlessly in the form of either bichloride or cyanide in large quantities of water or normal salt. This has approached the ideal method of mercury administration, for then the absorption is definite, and the relative disabling pain of the intramuscular injection has been eliminated. However, the local corrosive action of both bichloride and cyanide given intravenously, as a rule sooner or later, militates against its prolonged use.

In seeking a preparation that would eliminate this objectionable feature of intravenous mercury injections, my attention was directed to the Parke, Davis & Co. preparation, Mercurosal (disodium mercuri-salicylacetate, $C_6O_6H_6Na_2Hg$), which contains about 44 per cent metallic mercury by weight. It is derived from mercuric acetate and salicyl-acetic acid.

According to the manufacturers, "it is freely soluble in water, giving a slightly alkaline solution, which is permanent provided it be kept protected from light. The solution does not show any of the chemical reactions of mercury in its ordinary salt form, and when mixed with blood serum no precipitate forms. . . . The toxicity of mercurosal as determined by intravenous injection into laboratory animals has been shown to be about one-seventh that of mercury bichloride. The minimal lethal dose administered intravenously to dogs, 6 pounds in weight, is 8 mls of the 2 per cent solution."

In the following five cases selected to demonstrate its effectiveness as mercury medication and to show the absence of the local irritability on the vein, the method of administration as to interval and seat of injection is indicated clearly. Throughout the trials a small section of the vein was purposely selected to show this. As many as twenty-seven injections have been given in less than half-inch of vein space. In extensive experience with bichloride intravenous injections, seldom could more than one-fifth of a grain be used over a period of time at three-day intervals, even with the use of thirty cubic centimeters of water, without creating a phlebitis. In

the use of mercurosal more than one-half grain is used at shorter intervals over a longer time without this corrosive action. At the same time the effect of mercury is demonstrated by the clinical evidences of saturation which is easily under control.

O. L.—Chancre, November, 1918, with nothing but local treatment. No secondaries. First seen April, 1919, with a 4 plus Wassermann. Was given five injections of 0.30 gm neosarsphenamin at three-day intervals, followed by mercurosal ($\frac{1}{2}$ ampoule) thrice weekly, using 15 injections. The treatment was stopped a month and a Wassermann was negative on blood and spinal fluid. A second blood Wassermann after three months was also negative.

The above, a neglected case with a 4 plus Wassermann, exhibited a successful outcome with only five small doses of Neo and fifteen injections of mercurosal, which can be considered very little treatment. To test the irritant action of mercurosal on the vein, the fifteen injections were placed within one inch of space in the basilic vein, and yet no phlebitis resulted. Gum tenderness was slight and not troublesome.

G. B.—Chancre, November, 1918. When seen in February, 1919, he had a maculo-papular eruption, with mucous patches in the mouth and falling of the hair. His Wassermann at this time was 4 plus. He was given four injections of 0.30 gm Neo at three-day intervals, followed by fifteen injections of full ampoule mercurosal thrice weekly. Three weeks after the last treatment, his blood and spinal fluid yielded a negative Wassermann.

This, a well established case, in the secondary stage, likewise responded to an unusually limited course of treatment, consisting of four 0.30 gm Neo and fifteen mercurosals. The latter were also given in one vein, the sites not extending beyond one inch, with no local effect on the vein and only slight evidence of salivation despite the fact that the patient's teeth were in bad shape.

H. C. W.—Had a chancre, December, 1916, and was treated then with internal mercury on and off for six months, but exhibited a 4 plus Wassermann after that. His physician then administered intramuscular mercury weekly for four months. He then entered the army service. While here there appeared a tubercular syphiloderm. He was then given at three-day intervals, 0.45, 0.60, 0.60 and 0.60 gm Neo. He went abroad and had no treatment for a year. Upon his return his Wassermann was 4 plus (April, 1919). He was given 10 daily injections of 0.30 gm Neo, followed by fifteen injections of $2\frac{1}{2}$ Cc mercurosal at three-day intervals. Treatment was then stopped for two weeks, but the Wassermann was still 4 plus. Six daily injections of 0.30 gm were again administered. The blood Wassermann was still 4 plus while the spinal was negative. After a lapse of two weeks four injections of 0.75 gm Neo were given at four-day intervals, followed by twelve injections

of 5Cc. mercurosals at two-day intervals. Two weeks later the blood Wassermann was negative.

This was an unusually resistant case with a marked tolerance to salvarsan. He had been given twenty-four doses of salvarsan, some daily. The early mercury treatments were of no avail, since this was followed by a tertiary eruption. After a course of salvarsan therapy he received 27 mercurosals in the same vein, utilizing one inch space of this purposely to test out the irritant action of the drug. Aside from a metallic taste and temporary diarrhea no unpleasant effect resulted.

E. B. M.—Had a chancre in 1916, but had had no treatment other than local applications. He had not had any eruptions, but at the time of appearance at the office felt considerably run down and nervous. The Wassermann on July 10, 1919, was 3 plus. From July 12 to 19 he was given daily injections of 0.30 gm Neo. From August 12 to September 13 he had been given fifteen injections of 5 Cc mercurosal at the average rate of three injections a week. A Wassermann on October 24th was negative.

Latent syphilis duration three years revealed negative serology after eight daily 0.30 gm Neo and fifteen 5 Cc intravenous mercurosals, the latter administered in the same vein without causing unpleasant local or general symptoms of mercuration.

Miss K. A.—Had as the only manifestation of syphilis a patch on the tongue with a 3 plus positive Wassermann. She was given 0.30 gm Neo followed by two injections of 0.45 gm each. Because of a severe reaction following the last treatment, salvarsan was discontinued and mercurosal in 5 Cc doses twice weekly for fifteen treatments given. This was then followed by three injections of 0.30 gm Neo at four-day intervals. After a rest period of two weeks a blood Wassermann was negative.

A slenderly built woman, weight 112 pounds, was given six small doses of Neo and fifteen 5 Cc mercurosals, the latter in the same vein. A metallic taste prevailed, but no local effect on the vein appeared.

SUMMARY

In conducting this work it was my object solely to determine whether or not it was possible to use the drug safely as an intravenous medication, which method appears to me to be ideal in giving mercury. The dose absorbed is thus measured and the method painless. The question as to whether mercury or salvarsan is the best remedy does not enter here, although the combined treatment is recognized to be proper. I believe that it is here demonstrated that mercurosal in a dosage of 5 Cc containing over $\frac{1}{2}$ -grain mercury answers the question of mercury medication more than well, since it is possible by its use to employ a larger dosage of mercury more safely and painlessly than any other form. It will be interesting and important when

the product, which is not yet on the market, will be given further and extended trials, as it lends itself to easy administration.

25 E. Washington St.

THE COMPARATIVE VALUE OF ARSENOBENZOL BILLON BY INTRAVENOUS AND BY INTRAMUSCULAR INJECTION.—Leonard (*British Medical Journal*) treated 428 primary cases of syphilis with injections of arsenobenzol, 260 intravenously, 168 intramuscularly; also 83 tertiary cases, 66 intravenously, 17 intramuscularly.

The doses by the two methods were about the same: .45 milligrams the first day; .45 the 8th day; .45 the 15th day intravenously and .60 milligrams intramuscularly. On the 29th, 36th and 50th days .60 milligrams; on the 57th day .75 intravenously and .60 intramuscularly. If the Wassermann reaction was still positive, iodide of potassium and mercury was given for 15 days, followed by injection of .45, .60, or .75 milligrams at 8-day intervals according to the intensity of the reaction. An intramuscular injection of mercury was also given if the patient tolerated it.

The intravenous injections were made with concentrated solution, 5 c.c.; for the intramuscular injection, 15 c.c. administered with an analgesic for which the formula is not given. Immediately before the injection the patients were given an injection of morphine.

There were 95 percent negative Wassermann reactions after the intramuscular injections; 88.5 percent after the intravenous. Herpes, exfoliative dermatitis, headache and vomiting followed the intramuscular administration oftener than the intravenous.

A REMARKABLE CASE OF VIRILITY.

Privy Counsellor Dr. Horch reports the following unique case (*Zeitschrift fur Sexualwissenschaft*, December, 1919) from his legal practice:

A man 80 years old is suing his wife who is 44 years old for divorce on account of her obstinate refusal to fulfill her marital duties. The wife, on the other hand, complains that her husband who is perfectly potent and strongly libidinous, demands sexual intercourse from her every single day. The wife refuses to accede to his demands, first, because he is rough and nasty, but chiefly because she is afraid of becoming pregnant, as he is perfectly virile and refuses to employ any preventive measures.

This case is another proof of the extreme age to which a man's potency, both potentia coeundi and potentia generandi, can last. The wife asserts that the husband is free from any perversion and demands sexual relations only in the normal manner.

THE SOLDIER AND TUBERCULOSIS.*

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Out of the chaos of war there will come conditions of calm and quiet, disclosing to us many

new medical problems and the consideration of old problems in a new light.

The tuberculosis problem, while it rightly concerns us in the mobilization of great armies, is with all its social and economic phases essentially a peace-time problem, the war having brought to crucial test the real value of many theories, conceptions and assumptions.

The duties of a soldier not in active campaign do not predispose to tuberculosis in the American army. With regular hours of life and certain prescribed exercise, excellent food, good housing and enforced temperance, the soldier physically improves from the time of his induction into the military service. On the other hand, it admits of no argument that the rigors of an active campaign in an enemy country, trench life, forced marches, together with the nervous strain of actual combat, would promptly lower the immunity resistance of most men not in prime physical condition and speedily cause reactivation of any healed tuberculosis that may have escaped detection. It is, therefore, apparent that men with healed lesions of moderate extent and those with active manifest tuberculosis must be promptly rejected. Tuberculosis examiners must hold to the service men who allege tuberculosis as a ground for exemption or discharge on the basis of insufficient or incorrectly interpreted signs and symptoms.

A tuberculosis examiner must also decide whether or not the disease has been incurred in line of duty, not alone as a protection to the Government, but in justice to the soldier. Men for patriotic reasons may conceal symptoms of tuberculosis which they know to exist; some men with active tuberculosis may enlist with a view to obtaining a pension and treatments, others may repent of their action in volunteering and allege symptoms of tuberculosis with a view of securing discharge, they may even fortify their claims by certificates of disability and radiograph. Care must be exercised in not diagnosing tuberculosis on subjective symptoms and on physical signs, which are normal or indicate healed lesions of very moderate extent or lesions of an unimportant nature.

The American people were greatly disturbed to learn that 86,000 soldiers had been discharged from the French army on account of tuberculosis during the first year of the war. These statistics were spread throughout the country by enemy

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propagandists and created a widespread phthisiophobia. These figures, however, represented nothing (according to Maj. Edw. Rist of the French Army) but a diagnosis of tuberculosis made by practitioners who recognized in every chest and lung affection—tuberculosis, and it was later shown that not less than twenty per cent. of these supposedly tuberculous soldiers were not tuberculous at all.

The Tuberculosis Clearing Station established by the writer at Camp Grant, Ill., has shown that the majority of patients that have chronic cough have quite properly been placed under observation for tuberculosis, malignant growths of the lung and mediastinum, abscess of the lung, bronchiectasis, emphysema and syphilis. The hemoptysis of cardiac disease have all been diagnosed tuberculosis until careful study and observation proved to the contrary.

The initial selective draft of 1917, upon the male population of military age, was a census of the physical constitution of the people of the United States. It was discovered in the examination of the first million drafted men that 3,616 had sufficient tuberculosis to cause rejection. Of these 1,288 came from the city and 2,388 from rural districts.

The examination of the 86th Division was conducted at Camp Grant, Ill., by a board of officers, all of whom had practical clinical experience in tuberculosis work. The personnel of the Tuberculosis Clearing Station established at Camp Grant April, 1918, was selected from this board of clinicians. The first report to the Surgeon General on the tuberculosis survey at Camp Grant and the examination of the 86th Division, covered 21,700 men, according to company roster. The total number of cases of tuberculosis found was 204, or 0.94 per cent; recommended for discharge from the service 138, or 0.63 per cent; incipient pulmonary tuberculosis, Class "A," 66, or 0.304 per cent.

In the second increment 5,396 men were examined, rejected 0.685 per cent; third increment, 6,359 men examined, rejected 0.519 per cent; fourth increment 9,457 men examined, rejected 0.327 per cent; fifth increment 15,410 men examined, rejected 0.24 per cent; a total of 58,322 men examined. The records of the Tuberculosis Clearing Station, November, 1917, to May, 1919, including the examination of the 86th Division,

show that 87,196 men were examined, 859 rejected, or 0.985 per cent. In our country's great emergency we did not have the wise adviser called time; we could not study the progress of our cases for a period of weeks; time, however, has now proved or disapproved our diagnosis. So far as I can determine, demobilization has shown that we did not seriously err and that our army was efficiently examined. In considering clinically the chest examination of soldiers for tuberculosis, we may note that small tuberculous lesions usually confined to the apex, may be manifested by rales with few other changes to be noted, especially as regards breath sounds, percussion note and voice transmission, the radiograph at this time showing no shadow density. This is especially true of certain very acute lesions. As infiltration proceeds and more lung tissue becomes involved, the process may stimulate a broncho-pneumonia of a cascous nature, characterized at first by the usual signs of pneumonia, crepitant and sub-crepitant rales, coarse and distant rales from the larger bronchi, impairment of the expansibility of the lung with dullness or tympanitic percussion note.

With marked destruction of lung tissue there are cavity signs with large and moist rales of varying size. The tuberculosis presenting itself to the army examiner is usually of a chronic type.

Realizing as we do the insidious nature of tuberculosis, and at times the absence of constitutional disturbance, many cases run their course to a moderately advanced stage without the knowledge of the subject, and they tell us in good faith that they have never been seriously ill and that they have never had tuberculosis. These lesions are often devoid of moisture, the breath sounds are harsh, and the expiratory murmur is usually prolonged, there is increased vocal fremitus and resonance over the affected area, and percussion dullness is usually pronounced. The more acute the process the less marked are the changes in breath sounds with moisture predominating.

In the examination of the chest, I wish to emphasize the great importance of expiration and cough for the purpose of detecting moisture. The patient is requested to forcibly expel air from the lungs after the act of expiration, the cough is produced immediately at the end of the expira-

tion, inspiration follows with production of the rale. This method of detecting moisture is very commonly used in the examination of soldiers. In the mechanism of the production of the rale by this method the lumen of the bronchus is diminished by expiration and the agglutinated surfaces of the vesicular walls are separated by the act of inspiration, resulting in the production of the so-called crepitant rale in the presence of moisture. In the army, in the absence of other findings, we disregard as evidence of pulmonary tuberculosis the following: Slightly harsh breathing, slightly prolonged expiration over the right apex above the clavicle anteriorly and to the third dorsal vertebra posteriorly, the same signs at the extreme apex, left, same signs 2nd interspace right anteriorly near sternum proximity of right main bronchus; increased vocal resonance, slightly harsh breathing immediately below the center of left clavicle, fine crepitation over sternum heard when stethoscope touches edge of that bone, clicks heard during strong inspiration or after cough in the vicinity of the sterno-costal articulation.

The so-called atelectatic rales heard at the apex during first inspiration, which follows a deeper breath than usual, disappearing after cough; sounds resembling rales at base of lung marked in right axilla, limited to inspiration, similar sounds heard at apex of heart on cough, prolonged expiration heard at left base posteriorly, slight harshness of expiratory sound with prolonged expiration in the lower paravertebral regions of both lungs posteriorly, most marked about the angle of the scapula, disappearing a short distance above that point equal on both sides or slightly more marked at the angle on one side, more frequently the left.

Attention is called to the value of the radiograph as an adjunct to diagnosis in pulmonary tuberculosis. We recognize that the same laws that apply to the transmission of sound apply to the transmission of light. The pathology in the lung incident to tuberculous infiltration is capable of producing certain changes on auscultation in sound waves, depending in their pitch on frequency of vibration, in their loudness on the amplitude of vibration, and in their quality depending upon what overtones combine with the fundamental and on their relative intensities.

And so with the radiograph, the same pathology produces changes in the vibration of light waves and records on the sensitive film in definite and permanent form varying shadow densities dependent upon the pathology and the degree of infiltration in the lung or the intercepting medium between the luminous body "the Crooks tube" and the lung as exemplified by serous effusions or empyema. In the radiographic studies of shadow density in tuberculosis a certain definite method of procedure must be employed. By means of fluoroscopy, especially fluoroscopy (vertical), we can study fluid containing cavities, accumulations of fluid in the pleura; in this the value of the vertical position is apparent. The recognition of shadow densities by means of the fluoroscope will enable us to determine by confirmatory physical findings the extent of the lesions in a tuberculous infiltration. It must be remembered, however, that all shadow densities are not due to tuberculous infiltration.

The study of diaphragmatic mobility and excursion is of the greatest importance. Masses of air containing vesicles and frequently early tuberculous infiltration, producing showers of crepitant rales, will prove negative at times so far as the plate is concerned. The infiltrated and engorged bronchi, blood vessels and lymphatics, however, produce shadow densities of varying degree with shadowy network radiating from the hila toward the periphery. It must be remembered that a tuberculous process of several mm. is necessary to produce definite density and lung markings. Time and again definite physical findings of incipient tuberculosis, accompanied by considerable moisture, give a negative plate. Extensive tubercle deposit accompanied by a pneumonic exudate usually appears as a faint homogenous shadow indistinct in outline. This may be several mm. to a centimeter in diameter. Finally with extensive tuberculous infiltration there is a coalescence of these shadows producing the larger homogenous shadow of considerable density. Physical signs are at times absent in the presence of deep-seated cavities plainly visible on radiographic study; they appear as ring-like structures and usually imbedded within the infiltrated lung surrounded by a capsule of connective tissue. If the cavities are less than one

inch in diameter and contain a little air and are without a definite capsule, they are difficult of recognition. A cavity of large size, on the other hand, filled with secretions will cast a shadow of sufficient density to at times make it indistinguishable from the infiltrated lung.

At times on radiographic study, with little consolidation, the plate shows no evidence of structural difference; marked deviation from normal shadows is indicative of pathological change in pulmonary tissue. For the study of localized unilateral increase of density a good transillumination is essential. If there is no absence of symmetric change, there is probably no gross tissue abnormally.

Subjective and objective signs usually precede structural lesions showing distinct shadow changes. Fluoroscopic examinations are unreliable in the diagnosis of early tuberculosis. Diaphragmatic excursion is readily noted; shadow densities outlining the compressed lung in pneumothorax are readily distinguished. The structural changes in advanced phthisis are wonderfully outlined, and much valuable information as to the extent of the lesion may be obtained. The radiograph should be carefully studied by all who would make a specialty of diseases of the chest. The relation of shadow densities to physical findings is of the greatest importance and practical value. The stereoscope is quite as much an instrument of precision as the stethoscope if properly used.

It is manifestly indicated that in a cantonment of over 50,000 population the full measure of efficiency in tuberculosis control is not obtained by the work of the general examining boards alone, and the exclusion of the men found tuberculous at this time. Provision in some form should be made for the detection and control of tuberculosis. Following such examination, open cases must be promptly detected and hospitalized at once, later being sent to the sanitarium.

At the close of the examination of the 86th Division, the writer was assigned to duty at the Base Hospital, and at this time established the Tuberculosis Clearing Station. To this station all suspect cases from the regimental infirmaries and the sick and wounded office were sent for observation and diagnosis, and cases from the general examining board as well. Routine examination of sputum were made in all cases of

suspected tuberculosis throughout the camp, frequently detecting the disease in well nourished patients without marked clinical manifestations, patients who might have remained in the service an indefinite period of time or until their disease caused physical incapacity. All doubtful cases occurring in camp were here studied and final disposition made.

The Tuberculosis Clearing Station at Camp Grant was successful in largely keeping the cantonment free from tuberculosis, and I do not know of any other method of control that would have been as successful. It is, of course, understood that the x-ray department, nose and throat department and general laboratory were all accessible to the Clearing Station and freely used.

The efficient work of all the local examining boards, through adjacent states, was a factor of greatest importance and largely accounted for the comparatively small percentage of tuberculosis found among drafted men reporting to Camp Grant.

In conclusion let us hope that the work of the physician in this war will add much of value to scientific medicine. These men have gladly abandoned their professional life for the sake of civilization and mankind everywhere; research for a time has been abandoned, but the new conditions created by the state of war will unfold to us new problems worthy of our serious considerations; not the least of these is the tuberculosis problem.

OSTEOMYELITIS OF TRAUMATIC ORIGIN.*

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The gravity of osteomyelitis has always been recognized, and also its chronicity and difficulty of treatment. The past war, with its preponderance of osteomyelitis of traumatic origin, greatly emphasized that fact, and called for a better knowledge of the pathology and treatment. Traumatic osteomyelitis of civil life has the same pathology as the military and demands the same treatment. By the repeated acute attacks and the chronic course it follows, it greatly diminishes the working ability of the patient and exposes him to all the dangers of chronic infections. Through atrophic changes in the muscles, vessels

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and nerves in the part affected, by the phenomenon of chronic arthritis that it develops in neighboring articulations, it always entails a loss of function. It is tenacious in its course and its final cure is always difficult.

Chronic osteomyelitis may follow a contusion of the bone as in simple fracture or following an amputation, but the most common and the most difficult to treat are those following compound fractures and especially those that are comminuted.

The pathology differs from that of simple osteomyelitis. In simple osteomyelitis the infection is carried through the blood stream to the medullary canal with a consequent pus infection, which if operative proceedings are not instituted, breaks through the cortex, dissecting off a greater or lesser area of periosteum, and finally reaching the external surface by means of an abscess or fistula. In traumatic osteomyelitis the picture of simple osteomyelitis is exceptional. Due to the character of the violence and the manner and rapidity with which the violence is received, the wound is infected, most probably with foreign matter and foreign bodies, frequently carried into the medullary canal or caught between the bone ends, or the infection is fostered by the blood clots around or between the bony fragments, which furnish an unusually fertile field. As the infection subsides, bone callus is thrown out, and osteomyelitis has a tendency to throw out large bony deposits, especially in the comminuted fractures due to the displacing of the osseous elements, and we have a more or less firm union of the fragments with a persisting fistula and frequently sequestra. There is another type in which there is loss of bony substance in the long axis of the bone, but which does not extend through the entire diameter. Here we have an infection with possible foreign bodies or sequestra, and in the healing process, dense cicatricial tissue which retains within itself more or less of the infecting agent. Due to the loss of bone substance and periosteum, the cortical edges undergo a rarefaction and then a sclerosis, with the result that new bone is not produced to fill the gap and a consequent bridging over of the medullary canal with cicatricial tissue enclosing the infection in the canal with a resulting fistula. Frequently this sclerotic area becomes intensely eburnized.

The diagnosis is made from the nature and

character of the injury, character of treatment and response to treatment, the bony fistula when present, and in a great majority of instances it is present, and the x-ray findings. The x-ray offers one of the most valuable, if not the most valuable, diagnostic aids we possess, and multiple radiograms should be made from different aspects of the bone so as to reconstitute the type of the fracture and tract of the fissures. In the diaphysis they show the form and limits of the bony callus, and render visible the inflammatory ostitic cavity, its extent and sequestra. In the epiphysis, radiograms show the areas of softening and the extent and the decalcified zones about them. They also frequently indicate the proper site for incision. Additional information may be obtained by placing a silver wire in the fistulas or injecting them with bismuth paste before making the exposure. In this way a sinus is frequently shown to lead directly to a sequestrum.

Treatment: The proper treatment for the prevention of chronic osteomyelitis is early adequate surgical treatment of the fracture. Free exposure, removal of debris and foreign bodies, and removal of free bony fragments and fragments still adherent but badly contaminated and not likely to survive.

When chronic osteomyelitis has developed, the cure is only by surgical measures and should be resorted to at the earliest possible moment. This demands a free exposure, and the incision should be long whatever the seat of the disease, as the induration of the soft parts always renders retraction difficult, complete removal of the bony lesion and rendering the cavity into a plane surface so that drainage is complete and no chance of the secretions pocketing. Great care and good judgment must be exercised in the removal of the lesion. It must be thorough, bone sinuses followed and completely eradicated and the fungosities removed, yet no more healthy bone substance removed than absolutely necessary, so that cicatrization can be secured as soon as possible. The site of the incision is of great importance, being frequently made through the fistula and in the long axis of the bone or limb, but should this site have a serious disadvantage or be dangerous in its position, it is perfectly right and proper to make the point of entrance at the most advantageous site. Hemorrhage should be well controlled, the wound left wide open and packed tightly with gauze saturated with Dakin solution. The wound

is dressed daily, being thoroughly scrubbed with neutral green soap and then with alcohol and then repacked with Dakinized gauze tightly enough to obliterate all spaces and to keep the soft tissues from contracting. The interval irrigation method of Carrel may be followed, or moistening the packing thoroughly several times a day seems to give as good results when the Dakin solution is used. Scrubbing daily with green soap and alcohol insures firm and healthy granulations and eradicates the minute pockets of pus that develop under some of the granulations.

When the bone is covered with healthy granulations, muscle autoplasty is done and the wound closed. This should not be done until the bacterial count shows not more than one or two to a field and most certainly not over three. The use of Beck's paste, Bipp and fat transplants in a number of cases primarily seem to give good results, but it is argued by opponents of these methods that they do not take away the cause of the evil and that recurrence is inevitable.

Before operating whenever possible, mechano-therapeutic treatment should be instituted. Massage of the atrophied muscles and the musculo-tendinous stiffenings, and heat and light for the old wounds and scars all contribute to the success of the operation. Following the operation mechano-therapeutic treatment of the muscles and joints and the prevention of deformity should be immediately instituted. Where a fracture is possible a splint, brace or stabilizing apparatus should be used.

Conclusions: The treatment of osteomyelitis is first of all preventive; that is to say, simply the treatment of the foyer of the fracture.

The treatment of established osteomyelitis is purely surgical. It should be instituted early. It consists in:

- (a) Wide opening of the infected focus.
- (b) Careful search and ablation of all sequestra and foreign bodies.
- (c) Converting cavities into plane surfaces.

These operative steps accomplished, two remain:

- (a) Either the immediate closure of the wound, secured, if necessary, by flap autoplasty.
- (b) Chemical sterilization of the wound and secondary autoplasty as required to fill in the osseous cavity and to permit of its suture. The latter method is most generally applicable.

Cahokia Building.

CONCERNING CYSTIC DILATATION OF THE VESICAL END OF THE URETER WITH REPORT OF CASE*

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At the present time the cystic dilatation of the vesical end of the ureter—that part of it which is located in the bladder wall—while by no means an every-day observation, is not the clinical rarity which it used to be. Civiale mentioned it in 1843 and since then a number of others have reported these formations as occasional findings during an autopsy. Blumer of Johns Hopkins collected thirteen cases from the literature to the date of his publication in 1896, and J. R. Cauñk states that but sixteen authentic cases were collected until the year 1898.

However, the diagnosis of the anomaly intra-



Fig. 1. Cystoscopic picture of uterocoele in this case.

vitam and the appreciation of its relation to the various vesical and renal symptoms began with the more general employment of the cystoscope and the ureter-catheter. The first case diagnosed in this way and successfully operated on was reported by L. Wolf in 1899.

The opinions regarding the etiology are divided—some considering it as a congenital malformation, others as a condition resulting from infection or a trauma, the advocates of the latter cause basing their contention on the fact of its prevalence in women who had borne a number of children and passed through more or less difficult labor.

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For the cases in which there is distinct evidence of a congenital origin of the deformity, Rummel offers as an explanation the very oblique,

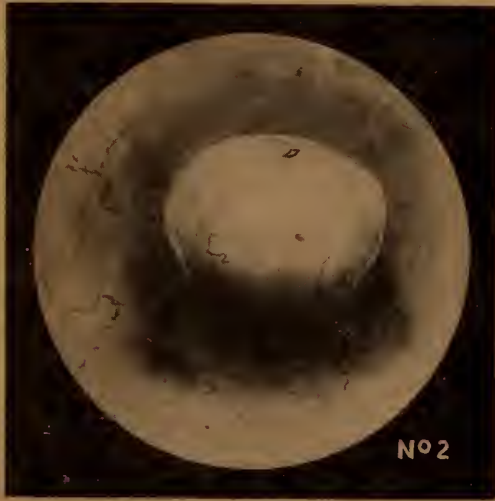


Fig. 2. Prolapse of the ureter.

course which the ureter takes through the bladder whereby the upper wall, at least for a certain distance, is only covered by mucosa. Burkhardt, on the other hand, assumes as responsible, a congenital weakness of the bladder muscle and subsequent thinning of the surrounding wall. According to Buström, it is due to a perfectly straight course of the ureter through the bladder wall, whereby the orifice, devoid of contractile muscle fibres of the bladder, lies directly below the mucosa.

We consider the stenosis of the ureteral orifice, be it congenital or acquired, as the most common primary cause, (basing our opinion on five cases observed by ourselves) and the scant, but exact reports of others who diagnosed the lesion pre-operative, and mention the stricture at the ureteral orifice in all instances.

Clinically, we believe there is no essential difference between the two types, inasmuch as in the final analysis, either of them will bring about the same result—symptomatically and structurally. In the congenital type, the condition might exist symptomless for years; but when the tumor has become large enough to reach the neck of the bladder, vesical distress will be in evidence, manifesting itself in difficult and frequent urination, urine retention, eventually bloody urine and terminal tenesmus. The tenesmus and the stricture at the ureteral orifice, be it congenital or caused by infection, will produce back pressure

of the urine, resulting in dilatation of the ureter and renal pelvis, and eventually in more or less functional impairment and essential derangement of the renal parenchyma.

The urine in the congenital type, before infection supervenes, will appear macroscopically normal even for years, but sooner or later infection is bound to occur in one way or the other, and this is usually the signal which invites a more careful investigation. Only by a cystoscopic survey of the bladder can the real condition be recognized, since all the other symptoms are not pathognostic of any particular lesion, but may be found in many other diseases of the uro-genital tract.

In the cystoscopic picture the fully developed ureterocele usually appears as a spherical tumor, on the surface of which the blood vessels can be seen arising from the adjoining bladder wall.

In another rare lesion—the prolapse of the urateral mucosa—the blood vessels run to the base of the protrusion, but not into it or over its surface, a fact which is considered as of differential diagnostic value between the two conditions which otherwise bear considerable resemblance to each other.

There are, however, two other points which



Fig. 3. Ureterocele seized with forceps and cateter inserted in the ureter.

according to our experience, are of greater value for the purpose of differentiation. First—the prolapse shows a more or less pedunculated base at its exit from the orifice and a much broader top carrying centrally located the opening of the

ureter, the picture reminding one of an inverted cone.

The ureterocele has a broad base presenting the real ureteral opening usually excentrically located either laterally or facing backward and not always at the top of the protrusion. It is, furthermore, possible to replace the prolapsed mucosa into the ureter with a ureter-catheter, which cannot be done with a ureterocele.

In the earlier stage, the cystic dilatation presents itself as a tense, translucent sac, only immediately before the emission of urine from its orifice; the accumulating urine, finding it difficult to escape through the stenosed opening, causing a bulging into the bladder of that part of the ureter which traverses the vesical wall. As this urine finally leaves the distended sac, the latter gradually collapses, but reappears at each succeeding phase; thus, the ureterocele is not visible in the intervals, and if these happen to be prolonged on account of the retarded secretory action of the kidney or because of a short and superficial cystoscopic observation, the lesion might remain unnoticed. In older cases, this is not likely to occur, because the distention of the ureteral wall has advanced so far that even after

by an acute edematous swelling of the orifice, or by a plug of pus or an accumulation of gravel in the sac, or by a ureteral concrement.

Diagnostic errors may also occur when the ureteral orifice is removed from the field of cysto-



Fig. 5. Lower wall incised and guide suture introduced securing ureteral and vesicle mucosa.



Fig. 4. Upper wall incised.

it is emptied, it still remains visible as a flabby, collapsed sac.

In the event of a temporary or permanent complete blocking of the ureteral orifice, the protrusion remains unchanged, and it might then happen that an erroneous diagnosis of a tumor will be made. Such blocking is brought about

scopic vision on account of its excentric location and retro-position. That such errors have actually happened, the true condition being recognized after the bladder was opened, is illustrated in the cases reported by Grosslick in 1901, by Bazy and recently by Paschkis. The latter reported two cases of ureterocele operated on by Zuckerkandel, one in 1914, and the other in 1916, in which a preoperative, cystoscopic diagnosis of prostatic tumor and vesical adenoma, respectively, was made. This author also stated that these cases were the only two operated upon by Zuckerkandel, a fact which speaks for the scarcity of the condition when one considers the formidable material at the disposal of this eminent clinician for a period of more than twenty-five years. Real cysts closely connected with the intra-vesical part of the ureter, an extremely rare anomaly, might be mistaken for a ureterocele if the lumen of the ureter be compressed by the cyst. However, the passage of a ureter-catheter and the stability of the protrusion should assist in avoiding this error.

In a few cases reported by Wildbolz and Fenwick, the trouble disappeared after the successful treatment of a cystitis which originally was responsible for the condition. These, as we are

inclined to believe, were apparently not congenital deformities, but cases of prolapse of the mucosa due to repeated and prolonged vesical and most likely ureteral tenesmus.

The treatment of a well established ureterocele can only be a surgical one. The so-called con-

we did in our previous cases and in the one we are submitting to your attention today.

The patient, a woman twenty-eight years old, was seen by us in consultation with Dr. Thos. G. Wallin. Previous history—negative. She is married two years—had no children. Present symptoms complained of—frequency of urination day and night, hematuria and vesical tenesmus, which trouble began in January, 1919. She was treated by her family physician for five months with vesical irrigations and urinary antiseptics without any improvement. Referred to us July 8, 1919.

About four weeks before she had an attack of typical renal colic lasting for several hours; since then dull pain in the left lumbar region radiating down the course of the left ureter. In the physical examination, which otherwise was negative, this pain was accentuated by manual palpation. Urine very cloudy, containing numerous pus cells, some blood corpuscles and a large number of typical Neisserian diplococci.

Cystoscopic examination revealed a bad cystitis, especially at the base of the bladder. On the left side, in place of the left ureteral orifice, a transparent, elastic, whitish tumor of the size of a pigeon egg, with scant, thin blood vessels in its lower portion. No ureteral opening visible nor whirls of urine from which to guess its possible location. Right ureter of normal shape working very actively.

While watching the tumor for a while it seemed



Fig. 6. Upper flap resected.

servative methods like slitting or cauterizing the cyst wall through a urethroscope or a cystoscope might be applicable to very small protrusions.

For any of these intravesical procedures, the ureteral orifice must be plainly visible and accessible, a condition which as experience has demonstrated, is not always present. The possibility of subsequent scar-formation and stenosis, particularly after extensive cauterization, should also be considered.

In the large sized ureterocele, the one most frequently encountered, at least a part of the troublesome symptoms is caused by its encroachment upon vesical sphincter. Furthermore, the elasticity of the sac wall is greatly reduced by the long standing over-distention. This fact can be plainly established by watching the sac before and after the urine is expelled from within its cavity. It appears as a tense, elastic mass before, and as a wrinkled, flabby bag after each phase. It is, therefore, reasonable to assume that the simple slitting of this mass of tissue, be it by the scalpel or by actual cautery, will leave its flaps intact, which are more likely than not to cause the persistence of the troublesome symptoms.

In all these cases it is advisable to remove the sac after opening the bladder supra-pubically as

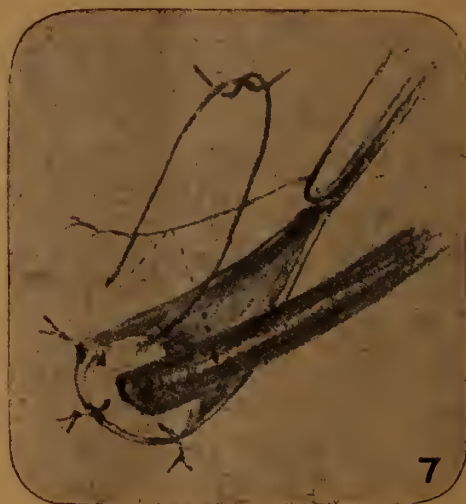


Fig. 7. Sutures through upper stump tied and lower flap ready to be treated in the same manner.

to grow somewhat smaller without, however, losing its tense appearance. During this observation the filling fluid became clouded with fine debris which seemed to rise from behind the tumor. By ureter-catheter we obtained from the right kidney a clear and microscopically and chemically normal specimen of urine. Since it was not only desirable, but also very important, to secure some information concern-

ing the physical condition of the left kidney, and yet not being able to discover the ureteral orifice, we passed a No. 7 catheter into the right renal pelvis, placed a Nelaton catheter into the bladder and injected indigo-carminé intra-muscularly. The right kidney promptly delivered the coloring matter in less than fifteen minutes; only a few cubic centimeters of cloudy urine trickled from the vesical catheter, this amount obviously being furnished by the left kidney, but not containing any indigo-carminé, even after forty-five minutes. Thus, to all appearances, the left kidney had lost its functional ability.

With these findings before us and the negative result of a vaginal examination, we were able to exclude a papilloma, a malignant tumor, a fibroma or a myoma. In gross appearance it came closest to a fibro-myxoma, but the elasticity of the mass established by the visible impression produced with a ureter-catheter and its changing size, made the diagnosis of cystocle a certainty.

Radical operation was decided upon which was performed August 6, 1919.

After opening the bladder, we seized the cystic, somewhat cone-shaped tumor at its highest point. Its length from top to base was about three ctr. While pulling the cone forward to look for the ureteral orifice, a small, fine stream of fluid of the thickness of a hair, emanated from a hardly visible opening, which we located on the posterior and mesial aspect of the tumor, about one ctr. from its highest point. With some difficulty this pin-point opening was dilated and a ureter-catheter introduced and carried into the renal pelvis. Over this catheter, the anterior and then the posterior wall was split. It could be plainly seen that it consisted of an outer and inner layer of mucosa. The finger inserted between these two flaps found below the base, another constriction which was enlarged by divulsion. The two flaps were then resected at the base, and the edges of the bladder mucosa united with the edges of the ureter mucosa with a few fine cat-gut stitches.

The ureter-catheter was left in position and led out through the urethra, the bladder closed and subsequently emptied by catheter every two hours. Recovery uneventful.

In the first twenty-four hours, copious quantities of cloudy urine containing pus cells and numerous typical gonocci were collected through the ureter-catheter. The renal pelvis was irrigated with a 1 per cent silver nitrate solution twice daily.

On the fourth day after the operation and before removing the renal catheter, a pheno-phtalein test of this kidney demonstrated considerable improvement in its functional activity. The phtalein appeared in twelve minutes and 20 per cent of it was recovered within the first hour.

The previous distressing symptoms ceased on the day of the operation, but the urine still remaining in the same condition, we resumed pelveo-renal lavage in the early part of October. On this occasion we observed the mode of the discharge of urine on the left side. It is secreted from the newly made open-

ing in a continuous, sluggish stream, this alternating with gushes of urine emitted with considerable force. Apparently, the uninterrupted flow is due to the loss of the orificial sphincter, and the intermittent gushes to contractions of the still intact parts of the ureter wall.

In the functional test made at that time, phtalein appeared on either side in eight minutes, but the total percentage of elimination is lower on the left side

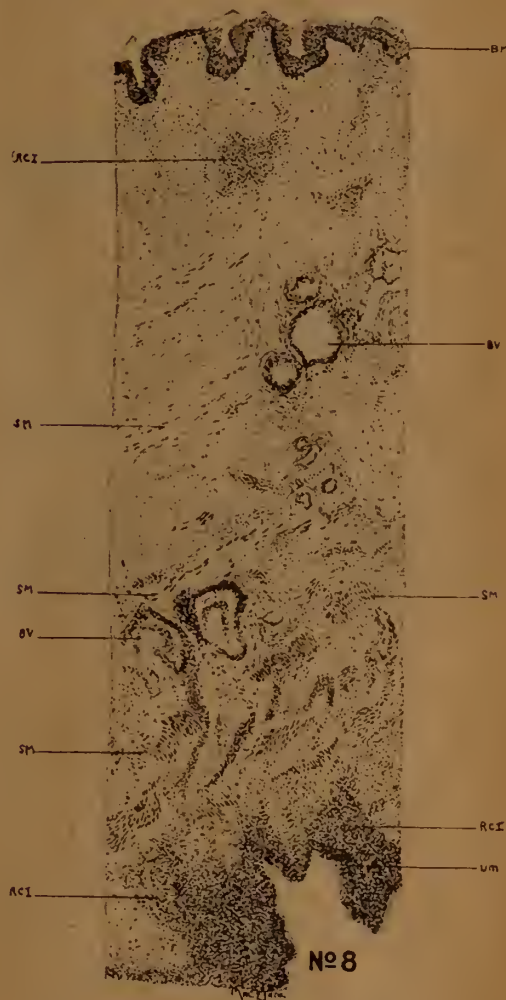


Fig. 8. Section through one of the removed flaps which explains the pathology and also proves this case as being of the congenital type to which inflammatory infiltration was added at a later stage.

and ceases completely after one hour. On the other hand, there is considerable polyuria from this side.

Radiographic pictures which we took recently show a dilatation of the ureter immediately behind the previously mentioned stricture, and a peculiar condition higher up, the nature of which we are not yet ready to classify. It will require further radiograms to decide upon this more definitely. The most plausible interpretation we are able to offer is that the stenosis of the ureter, being of long standing, has eventually

led to a permanent dilatation of the renal pelvis, the lowest point of which reaches down to the fifth lumbar vertebra as the portion of the coiled up part of the ureter-catheter seems to indicate. The lower pole of the kidney itself seems to be in its normal position.

Comparing the time of the appearance of the first symptoms, the size of the ureterocele and the advanced structural lesions in the upper urinary tract, we are inclined to consider this a case of congenital stricture and cystic dilatation of the ureter, which, however, has existed symp-

man, we find a typical, well-developed ureterocele on the right side; the ureter near the top of the cone excentrically located, but visible; a large sized diverticulum close to the ureterocele and a small diverticulum near the left ureteral orifice.

These findings corroborate the observation of some authors that quite a number of these cases of the congenital type present other defects or abnormal conditions in the uro-genital tract. We shall take occasion to report on the further course of these two cases.

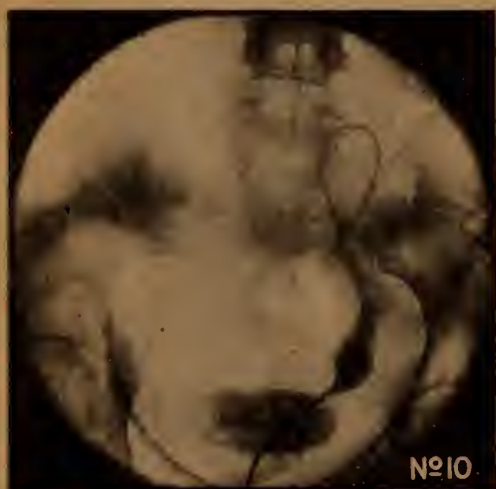


Fig. 10. Radiogram showing the condition of the upper urinary tract as described at the end of this paper.

tomless until gonorrheal infection involving the whole urinary tract, was engrafted on it. That the deformity has existed long before infection supervened, may also be concluded from the permanency of the dilatation of the lower end of the pelvic ureter as seen in the radiogram and also from what we believe to be a very large and permanently deformed renal pelvis. Ordinarily, such lesions, unless they have been present for years, disappear very shortly after the original cause has been removed.

As it happens so frequently with more or less rare cases that sometimes several years pass without seeing a single one, and than a few appear at more or less short intervals, we ran across two cases of ureterocele last week. One of them is a young man twenty-four years old who is troubled with more or less vesical distress since childhood. His sister twenty-six years old also has been afflicted from early childhood with the same trouble. In the cystoscopic examination of the

DISEASES OF THE THYROID AND HOW TO ATTACK THEM

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The thyroid gland has furnished a great many problems, many of which have never been cleared up and are still the subject of considerable discussion among physicians and surgeons.

Etiology. Of the different types of enlargement of the thyroid we have very little definite knowledge. Some practitioners believe that certain types of enlargement are not truly thyroidal in origin, but represent a lesion the basis of which is in the cardiovascular or nervous system. The disease most frequently develops in the third decade. Women are much more affected than men. Heredity, emotional excitement and mental strain are pre-disposing factors. It is believed by some investigators that hyperthyroidism is not the only causal factor in Graves' disease; nor is enlargement of the thyroid always associated with exophthalmos, and both symptoms may be absent in an otherwise typical case. The etiology is still obscure, but two theories have been advanced, the glandular and the neurogenic. Against the glandular theory militates the probability of the thymus, suprarenals, hypophysis, and ovary, and possibly other internal secretory glands being etiologically involved. Investigations show that a predisposing factor is necessary which is to be looked for in the central nervous system. This explains the directly inherited cases.

Hyperthyroidism is thought by some authors to be due to a perversion of function rather than to an increase of normal function. The degree of toxemia is not always proportionate to the size of the gland. Many severe cases show slight, if any, enlargement.

Believing that the existing organism of goiter has as its chief habitat the intertinal canal, King tried to segregate an organism that might produce goiter in animals. Cultures were made from the feces of twelve or fifteen goiter animals. The only noteworthy finding was the almost uniform absence of the true colon bacillus. Many types of colon bacilli were found, some conforming to the characteristics of the paracolon group, while others did not conform to any classification. A large number were similar in the different individuals and their chief characteristics were (1) almost nonmobile; (2) slow in forming gas; (3) acid in reaction; (4)*dulcitate and mannitin-negative; (5) indican negative. They grew about as well in room temperature as in incubator temperature. Cultures taken from the gills of an infected fish showed many similar characteristics, though differing in others.

If the colon is the habitat of the organism, it will be found only in certain selected early or acute cases, or found not to predominate in cases of longer standing goiter. This opinion is borne out, by two facts, first, that many cases after a time get well of their own accord, especially if the patient be removed from a community in which goiter is endemic, or if put on boiled water for considerable periods; second, that patients occasionally recover by the use of daily doses of sodium phosphate.

Pathology. The pathology of exophthalmic goiter is still undetermined, but the disease is thought to be due to excessive functional activity of the thyroid gland. Greenfield found tubular spaces of the gland proliferated and the colloid matrix replaced by a mucoid material. Wilson reports his findings in superior cervical sympathetic ganglia removed at operation from sixteen patients having hyperplastic toxic goiter at the Mayo Clinic. These he summarizes as follows:

1. Definite histologic changes in the cells of the cervical sympathetic ganglia in hyperplastic toxic (exophthalmic) goiter occurred in all cases examined.

2. These histologic changes consisted of various stages of degeneration; namely (1) hyperchromatization, (2) hyperpigmentation, (3) chromatolysis, and (4) atrophy or (5) granular degeneration of the nerve cells.

3. Some of the ganglia contained cells resembling the partially differentiated cells found in the ganglia of infants.

4. Accompanying the more advanced changes in the ganglion cells were similar degenerative changes in the nerve fibers and an increase of connective tissue throughout the ganglion, especially, however, in the outer and middle coats of the vessels and in the periganglionic tissue.

5. So far as could be determined from the small number of observations, the pathologic changes in the cervical sympathetic ganglia were parallel to the stage and intensity of the symptoms of hyperthyroidism and to the hyperplastic and regressive changes in the thyroid.

Speaking of pathological changes in exophthalmic goiter, Watson has observed a marked weakness in the quadriceps muscle in a patient climbing stairs, and in the intercostals and diaphragm by the shallow, hurried respiration. Relaxation of the muscles of the eye may be responsible for exophthalmos. There are marked changes in the myocardium and changes in the sympathetic ganglia. Kocher says there is always hyperplasia in exophthalmic goiter, but that the thymus is enlarged in about 45 to 50 per cent of cases. By removing a portion of the thyroid the thymus retrogrades. The vascular changes are analogous to aortic insufficiency. Blood pressure is higher in the thigh than in the arm (20 to 26mm.). Exophthalmic goiter is considered to be not a poor expression of thyroid inactivity, but that it represents the conjoined results of excessive function of the thyroid, the suprarenal glands, and the cervical sympathetic nervous system. The pathology found in the enlarged glands appears in many cases to be secondary to infection or to some profound disturbance of the nervous system which calls for increased thyroid output; this in turn produces changes in the sympathetic nervous system, adrenals, and other organs of the body. The combined effect makes up the picture of exophthalmic goiter, with varying degrees of hyperthyroidism. The thyroid is regarded as one of the most important glands of the body, and while a complete knowledge of its activity is still lacking, the work of Plummer and Kendall, through investigations into the physiological action of its secretion, is such as to nearly accomplish the result of its fundamental effect on life.

Symptoms. Acceleration of the pulse (100 to 150) and palpitation are constant symptoms. Both are intensified by excitement. Hypertrophy of the heart may ultimately ensue from over-

action. These is bilateral protrusion of the eye-balls, a failure of the upper lid to follow the eye-ball when the latter is directed downward, widening of the palpebral angle, and inability of the eyes to converge upon a near object. Vision is not apparently disturbed. Enlargement of the thyroid may be the last symptom to appear. One or both lobes of the gland may be involved. Inspection detects enlargement, with pulsation; palpation, a purring thrill, and auscultation, a bruit. A fine muscular tremor is an early symptom. Nervous irritability and asthenia are often marked. Occasionally mania or hypochondriasis is observed. As the disease progresses weakness and anemia become pronounced. Sweating is common. Moderate fever is an occasional symptom. There may be glycosuria and albuminuria. Tenderness in the region of the thyroid is mentioned as a sign of exophthalmic goiter. Tachycardia may be moderate, and occur only when standing or walking, or under emotional stress. Predominance in the morning and slight maximal hypertension are not restricted to exophthalmic goiter. Only examination of the thyroid body and eyes will decide the question. In every case of tachycardia of doubtful origin, all the ocular signs of exophthalmic goiter should be sought for with care, even when there is nothing to suggest exophthalmic or goiter. Sometimes only the behavior of the upper eyelid will give the clue. Certainty is attained by the pain experienced when the thyroid region is palpated or explored with the point of a pin. The patient winces and makes grimaces as the thyroid area is reached. This pain is sharp, like a burn or deep prick. Uncommon local manifestations of thyroid enlargement are cyanosis, headache, vertigo, and epistaxis which may occur from pressure upon the carotid sheath. Marked pressure upon the vagus may give rise to phenomena varying with the degree and constancy of irritation. Dyspnea occurs with varying frequency in statistical records, in consequence of the resistance of the underlying muscles and pretracheal cervical fascia to the gland. This symptom is most marked in instances where the isthmus is greatly involved, or where the latter lies between the trachea and the sternum. Dysphagia may result from pressure on the pharynx or the esophagus, and is more common in left-sided goiters for anatomical reasons. Dysphonia with hoarseness, and rarely aphonia, may result from pressure

upon recurrent laryngeal nerve. Pulsation and bruit may occur in vary degrees, depending upon the degree of pressure exerted by the enlarged thyroid upon the carotid artery; the extent of the increase in the vascularity of the organ, or both. A disease of the thyroid often overlooked is substernal or intrathoracic goiter. The symptoms produced by these goiters are a dull feeling on pressure beneath the sternum on swallowing; an uncomfortable feeling of the mass ascending and descending as it does in swallowing; huskiness of the voice; dyspnea to a greater or less degree, depending on the size and situation of the tumor and intermittent attacks of suffocation.

Diagnosis. Any one of the important symptoms may be absent throughout the disease. In some cases palpitation and throbbing of the cervical vessels may be the only phenomena. Simple goiter may be distinguished from exophthalmic goiter by the absence of cardiac, ocular, and nervous symptoms. The differential diagnosis is not difficult if careful study is made of each case. The greatest difficulty arises in the border line cases of thyrotoxic goiter which are often confused with enlargement of the thyroid due to infections or to such diseases as incipient tuberculosis or neurasthenia. Most commonly one lateral lobe is greatly enlarged, the middle lobe considerably, and the other lateral lobe but slightly. Some difficulty may attend the differentiation between goiter and branchial cyst, but the latter is more usually uniform. There is distinct fluctuation present, as a rule, in the latter condition, and the normal thyroid gland can be felt below the branchial cyst. Carcinoma in the lymph nodes of the neck is not likely to be mistaken for goiter if a careful examination is made because the former is always secondary to carcinoma of the mouth, pharynx, nose, scalp, parotid gland, or ear, or some other tissue. The surgeon is rarely called upon to treat a simple goiter until it has advanced to a considerable size, so that the growth is a source of annoyance to the patient because of the deformity it produces, or because of the fact that pressure from the tumor interferes with respiration and deglutition. Several clinicians maintain that a diagnosis of exophthalmic goiter can be made in case tachycardia is present which cannot be explained upon any other pathological theory in any given case. When either exophthalmos or goiter is present with tachycardia most authorities agree on the

diagnosis. Exophthalmos is present in only a small per cent of the cases of moderate hyperthyroidism and is not demonstrable in every case of severe toxic goiter. In 80 per cent of the exophthalmic patients coming under the observation of one writer the onset was traced to an accident, sudden fright, parturition, grief, worry, climacteric or infectious diseases. A simple goiter may change into the toxic type at any time. Ninety-four per cent of all goiters occur in women.

Prognosis. The prognosis of Graves' disease has improved enormously during the past few years, and this improvement is due very largely to the recognition by Moebius of the fact that the disease is attributed to the circulation in the blood of toxic material secreted by the thyroid gland under certain conditions. There is a marked difference in the prognosis between cases which begin slowly and progress in the same gradual manner and those which come on acutely and progress rapidly. The latter are far more serious and grave. The disease is more serious in man than in woman. The prognosis becomes more grave with the increase in age of the patient.

Non-Surgical Treatment. More than one-half of all cases of goiter will recover under careful dietetic, hygienic and medical treatment which must consist in drinking an abundance of good water which can always be obtained in regions where goiter is endemic by distilling it, by carefully regulating the diet, by correcting the conditions of ventilation in homes and especially in sleeping rooms, by insisting upon an abundance of sleep and upon an absence of excitement and of mental and of physical fatigue.

In simple goiter the application of a non-irritating absorbable iodine ointment to the neck seems to be of considerable benefit. Internally general tonics are of undoubted value and from two to three grains of a reliable thyroid extract given from three to four times daily seems to have a specific value. Van Derslice recommends the taking of iodoform gr. 1, three times daily.

Boiling water injections are safe and cause immediate destruction of the gland cells and colloid. The areas to be injected are infiltrated with one per cent novocain. The filled syringe is removed from the water, which is actually boiling, and the injection quickly made, some five to twenty c. c. being used, according to the size of

the lobe. This treatment is adapted to patients who have had a lobectomy done and are still suffering from symptoms of hyperthyroidism with hyperthrophy of the remaining lobe. Patients with large goiters and extremely toxic should be treated with the injections of boiling water until they become safe surgical risks.

Quinin and urea injections have been used with excellent results. One author reports one hundred cases in which quinin and urea was used with the following results: The symptoms were relieved in 85 per cent of the exophthalmic, and in 84 per cent of the toxic non-exophthalmic patients. Fifteen per cent of the exophthalmic patients were improved, and 10 per cent of the non-exophthalmics were benefited. In 80 per cent of the exophthalmic patients the goiter disappeared within an average period of five months; in 15 per cent the tumor was reduced in size, and in 5 per cent there was no change. To achieve the best results, patients must have a period of at least one year of mental and physical rest after treatment. Massive injections of quinin and urea should not be given. Watson injects only five or ten minims of the solution at a time, repeating the treatments at one to three day intervals. The action of quinin and urea is said to be about the same as that following the injection of boiling water, although much less severe. Charles Mayo reports three patients with exophthalmic goiter who died from the injection of hot water.

Roentgen treatment has been used quite extensively both alone and in combination with surgery. Satisfactory results have been reported by several writers. The rays have a favorable influence on excessive, deficient, or perverse function of the gland.

Abbe, of New York, first used radium successfully in exophthalmic goiter, and his favorable results have been confirmed by others. Radium is said to have two definite advantages over roentgen rays, namely, the possibility of giving definite doses and of administering it without noise or excitement while the patient remains in bed. The theory of the beneficial action of the x-ray on the thyroid in exophthalmic goiter is that in this disease there is a hyperplasia of cells and acini, and the x-ray is known to have a selective destructive action on highly specialized epithelial cells, especially those of the embryological type.

Surgical Treatment. A goiter operation is

not free from danger. The patient must decide for herself whether the swelling is enough of a personal annoyance to warrant its removal. The choice of operation must be left to the individual judgment of the surgeon. The rule should be to err in favor of conservatism, to select in doubtful cases ligation rather than lobectomy, one vessel rather than two, or in the more serious cases the injection of boiling water rather than ligation. The operative treatment resolves itself into the mechanical problem of lifting the buried mass out of the chest upon the neck. These goiters must be delivered in toto and never by piecemeal, as the latter method results, first, in severe oozing which can be controlled only by ligature of the main blood supply to the tumor, and secondly, in leaving well nourished segments of the tumor behind, from which further intrathoracic growth may occur.

A great many surgeons favor the inverted horseshoe incision, which was introduced by Kocher and called by him "the collar incision." This incision begins at a point a little above the level of the most prominent portion of the larynx and the anterior border of the sterno-cleido mastoid muscle, it extends downward and makes a regular curve across the lower border of the thyroid gland two to three cm. above the upper margin of the sternum. It then ascends to a corresponding point on the opposite side of the neck making a perfectly uniform symmetrical line. This incision may be varied in length and in the distance of separation of the vertical incisions, according to the necessities of the case, but aside from these variations no other incision is required for the removal of any portion of the thyroid gland. Many other incisions have been described, all of them taking the anterior edge of the sterno-cleido mastoid muscles as a guide, but except for the opening of abscesses none of these incisions will be as satisfactory as the Kocher incision, because none of them give so perfect an approach to the field of operation, and each one leaves a greater amount of deformity.

The important factors for success in surgery of the thyroid are careful selection of cases and choice of time for operation; careful anesthesia, preference being for ether in the absence of definite contraindications; avoidance of mental excitement; stealing the patient from bed; quick, skillful operation; avoidance of injury to the inferior laryngeal nerve (as the ligating or cut-

ting of these nerves will cause permanent paralysis of the vocal cords on that side) to parathyroid glands by preserving the posterior capsule and parathyroid arteries; adequate drainage of wounds.

Failure to get relief from operation, although there be no recurrence of the goiter, is usually due to incomplete removal of diseased tissue.

Postoperative Treatment. In the after-treatments Ochsner recommends that the patient on reaching the room have the head and shoulders elevated on a head-rest, and that 500 c. c. of warm normal salt by proctoclysis be given, and repeated every four hours. If the pulse rises and the patient becomes nervous morphin, gr. $\frac{1}{4}$, and atropin, gr. $\frac{1}{100}$, are given, and then in one-half hour a hypodermoclysis of 1000 c. c. is administered. This may be of necessity repeated several times, but will usually prevent a post-operative thyrotoxicosis in the exophthalmic cases. Water per mouth is given freely after nausea ceases. The patient should be impressed with the importance of keeping up dietetic and medical restrictions perseveringly after the operation as before, in order to guard against a recurrence.

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SOME POINTS ON PROSTATECTOMY WITH SPECIAL REFERENCE TO ITS AFTER TREATMENT.*

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Pathological Changes. Obstruction in the urethra, from any cause, leads to disease of the whole urinary tract, behind the obstruction. First, residual urine, cystitis with or without contraction or sacculation of the bladder, ureteritis, pyelitis, pyelonephritis, and death if the obstruction is allowed to continue. In fact the whole urinary tract becomes gradually and insidiously demoralized.

Importance of Early Operation. Up to the present time, there is no medicine or treatment which will prevent the onward march of the pathological changes above mentioned. Early operation, before the whole urinary tract is irreparably damaged from obstruction, should be undertaken. If the operation is delayed until the bladder becomes obstructed, or sacculated, or an ascending inflammation is present, no skill will remove these conditions, and the patient will suffer, more or less continuously, from the same symptoms which the operation is intended to relieve.

In the early days of prostatic surgery, the operation was a last resort and delayed until the whole urinary tract was damaged from septic infection and kidney complications.

Both the laity and the profession are gradually learning what obstruction means in the urinary tract, and are recognizing the importance of early operation. I am satisfied that this obstruction in the urethra, merits more attention from practitioners, in general, than is given to it at the present time. Some seem to be content with catheter and urotrophine treatment, while

the abnormal condition of the urine, caused by the obstruction, is gradually, silently and insidiously, destroying the whole urinary tract.

Preparation of the Patient. Many cases are brought into the hospital in the evening and operated upon the next day. I think, you will agree with me, that this is a great mistake, as each case required special and careful study before the operation is undertaken. In cases with a large amount of residual urine or retention, the urine should be drawn off gradually, extending over several days, until the bladder is completely emptied, to prevent severe reaction later in the urinary system. During this time medicines should be given to render the urine acid. Urotropine can be given.

Another class of cases, with severe systitis, and a large amount of pus in the urine, is best treated by continuously draining the bladder with a catheter and frequent irrigations with an antiseptic solution, until the urine becomes comparatively clear, before the operation is undertaken.

Another class of cases, with marked distortion of the prostatic urethra, with difficult and painful catheterization, and extreme septic infection of the urinary tract, is best prepared for prostatectomy, by supra-pubic drainage.

Back in the year 1890, before the days of prostatectomy, I reported and exhibited two cases of permanent supra-pubic drainage, for chronic obstruction, before the American Medical Association. The technique followed at that time was precisely the same as that followed today. The only difference is that a permanent tube was worn after the supra-pubic wound contracted down. It is quite obvious that the operation of permanent supra-pubic drainage was abandoned and temporary supra-pubic drainage was substituted, after the operation of prostatectomy was established and universally practiced.

Temporary supra-pubic drainage, in properly selected cases, always removes the backward pressure in the urinary tract. Sleep is produced, the septic infection is reduced to a minimum, and the patient rapidly improves, and is in a better condition to stand the more serious operation of prostatectomy.

In a certain class of cases, when the patient is in a desperate condition and operation is out

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of the question, the supra-pubic region can be anesthetized with a local anesthetic, then a trocar, surrounded by a rubber tube as a cannula, can be plunged into the distended bladder. The trocar is then withdrawn and the drainage tube is left in the bladder, connected by a long piece of drainage tube, leading into the bottle.

After temporary supra-pubic drainage, when the urine becomes quite clear, and there is marked improvement in the patient, the prostate can be removed through the same supra-pubic puncture. I am satisfied, from my own experience, that temporary supra-pubic drainage lowers the mortality in selected cases. I am not advocating temporary supra-pubic drainage, as a routine practice, preparatory to prostatectomy.

There is another class of cases that deserves serious attention before the operation is even considered—cases with a very high blood pressure, cardiovascular changes; increase in the amount of urine, of a low specific gravity, fluctuating between 1002 and 1008, with albumin in the urine and derangement of the gastro-intestinal canal and nervous system, from uremia. Such cases should not be operated upon without, first, consulting a competent internist and a modern laboratory worker, and then not until there is marked improvement in the general symptoms. During the last year I lost two cases of this kind while they were in the hospital being prepared for operation.

Time for Operation. Whether the prostate is large or small when the bladder is rendered incompetent by residual urine, due to prostatic obstruction with consequent frequency of urination from lessened capacity of the bladder, the time is rapidly approaching when the catheter must be used. This is the time for prostatectomy. When catheter life is one established, no matter how carefully asepsis is practiced, the case generally goes from bad to worse, resulting in complete infection of the whole urinary tract.

Choice of Operation. Prostatectomy is about settled in favor of the high operation. It is supra-pubic, both in Europe and America, with the exception of a few, who are still exploiting the perineal operation. It is safe to say that more than ninety-eight per cent. of prostatectomies are performed by the supra-pubic route, the world over.

There are articles in literature, at the present

time, urging against the perineal operation, but it would seem superfluous at this time, to mention more than a few of them.

Incontinence of urine, which occurs so frequently after perineal prostatectomy, caused by injury to the compressor urethra muscle, during the operation, is the cause of the incontinence. The compressor urethra muscle has been proven, by experiment, by Finger, Ultzman and Guyon, to be the true sphincter of the bladder.

Injury to the rectum, which occurs so frequently in the perineal operation, is impossible in the supra-pubic operation. Prolonged fistulous openings, which often follow in the low operation, can be avoided in the supra-pubic operation.

Advocates of the perineal operation claim that injury to the rectum and incontinence of urine and prolonged fistulas should never occur. The Good Book states, "By their deeds ye shall know them."

During the past years, I have seen quite a number of recto-vesical fistulas and incontinence of urine, due to injury of the compressor urethra muscle, sustained in perineal prostatectomy performed by some of the most distinguished surgeons in this country. A patient with a recto-vesical fistula or incontinence of urine, is in a condition a little worse than death, and is not only a burden to himself, but to his family and to his friends.

And when we further consider that every nook and corner of the bladder can be thoroughly inspected by the high operation, it is not surprising that the supra-pubic should be the operation of choice.

Technique of Operation. Prostatectomy is a reasonably safe operation, if performed before the obstruction has done its terrible work.

I have followed the technique so highly recommended by Dr. Bentley Squire, and have experienced less hemorrhage, by this technique, than formerly.

"The enucleation is commenced by pushing the finger into the internal meatus and breaking through the roof of the urethra, at a point where the lateral lobes lie in opposition. The finger is within the encircling ring of the sphincter. The finger frees the lateral lobe in front and at the side, and the lobe is delivered into the bladder. The finger is carried around beneath the middle lobe, the other lateral lobe is

then loosened and the prostate is tipped up into the bladder and the urethra is now severed close to the median lobe behind the colliculus. An irregular cone shaped cavity remains lined with prostatic tissues covering the unimpaired ejaculatory ducts. The internal sphincter remains intact and soon contracts to its normal calibre."

If unusual hemorrhage is encountered, it is best controlled by the well known old methods of ligature and pressure. If the hemorrhage is severe, the incision in the bladder can be extended, preferably upward, to make more room to work. The bladder is well exposed by properly placing the retractors and having a good light reflected into the bladder. A continuous lock suture is now applied along the margin of the lacerated mucous membrane.

In my experience, most of the hemorrhage comes from the lacerated mucous membrane which covered the prostate. Should the hemorrhage continue, after the suture is applied, the bed from which the prostate has been removed, can be packed thoroughly. Hemorrhage should be stopped at all hazards, as it is the principle cause of death after prostatectomy. I have never used the Hagner bag or balloon, or fat, so highly recommended by many operators, believing that the suture and the tampon are more reliable.

Formerly, in my prostatectomy work I used every kind and description of drainage tubes, after prostatectomy. The past years I have discontinued the use of drainage tubes altogether. After the prostate is removed and a few stitches are taken to draw the wound together, in the fascia and the skin, in the upper and lower part of the wound, and after inserting a small cigarette drain in the pre-vesicle space, the operation is completed. A pad is placed over the wound to absorb the drainage, and the pads are replaced by a competent nurse, until the wound is healed. Since I have discontinued the use of retained catheter and supra-pubic drainage tubes, after prostatectomy, the wound has healed more rapidly, there is less sloughing of the surrounding tissues, and I have never had a prolonged fistula.

Asesthetic. At the present time it is difficult to say which is the best anesthetic, as some operators have selected local anesthesia entirely,

others equally competent have selected spinal anesthesia, others use gas and oxygen combined with local, while a small contingent recommend caudal (Sarcoc) anesthesia, and a greater number still continue the use of chloroform and ether.

My own preference is local anesthesia combined with gas and oxygen, and if I were to be operated upon, I would select a surgeon who would combine local anesthesia with gas and oxygen. The local anesthesia is to be given until the bladder is opened and gas and oxygen given to complete the operation.

Dr. Prince, of Birmingham, Alabama, reports observation on two thousand five hundred cases of gas and oxygen anesthesia and believes it to be the only anesthetic to be used in lung and kidney complications, and particularly, in cases of septic infection and those suffering with nephritic complications. The post operative nausea and vomiting and other disagreeable symptoms, so frequently and often persistent following ether narcosis is completely eliminated. The administration of ether might be just enough to turn the tide against the patient. His observations coincide with investigations of many others, who have written on gas and oxygen anesthesia in prostatectomy.

The administration of gas and oxygen must be administered by one especially trained and with quite extensive experience in its administration, and should never be used as a routine by interns and nurses who have had no experience in its administration.

In the limited number of cases in which I have used combined gas and oxygen anesthesia, the anesthetic was administered by a dentist with enormous experience in its administration.

DISCUSSION

Dr. Emerson A. Fletcher, Milwaukee, considered pre-operative treatment of these cases, the most important phase of the subject.

He divides the cases of prostatectomy into three groups: First, patients who will depend upon internal medication entirely, of whom about one-half will, at the end of five years, die of acute urinal infection or from so-called uremia. Second, a smaller group that will die at the end of three years from the same causes. Third, the smallest group composed of those patients who will seek operative relief. At the present time in the United States the mortality rate of prostatectomy, either above or below, is between fifteen and twenty per cent. Freier has operated upon 1,550 cases

with a mortality of about 5.5 per cent.* Young operated upon perhaps half that number with a somewhat lower mortality rate.

He believes that the preliminary treatment of these cases should be not only thorough but sufficiently prolonged.

A thorough physical examination of the patient, including an x-ray examination for stones in the bladder or in the kidneys, and a thorough study of the blood should be made. The various blood tests for the functional capacity of the kidneys have proved their value.

Certain of these patients will have to be catheterized for a considerable period of time, either intermittently or continuously. Patients who come with the bladder filled with clots, those with a very acute systitis or who have stones present in the bladder and persons who give a history of repeated chills and fever where the kidney is probably infected are not suitable for catheterization.

Freier in his work on his 1,550 prostatectomies, found that it was only necessary to do supra-pubic section seventy-four times. Two or three years ago, Dr. Paul Pilchner advocated very strongly the use of the two-stage operation for the reason that when a man's bladder was drained, where he had been a retentionist, his blood pressure, which had been previously, perhaps, 200 or 225 would fall 125 and where, before the bladder was emptied there would be only a trace of albumin in the urine, after it was emptied he would have a very large amount of albumin. That the renal functional test, remarkably depressed after the supra-pubic sections, reaches its lowest point about the fourth or fifth day, and then it gradually rises so that at the end of ten days or two weeks, its functions are at or above the point they were before the bladder was opened.

He would not hesitate to let a bladder drain a month or six months, making tests from time to time, and when the patient is found to be in a satisfactory condition, he is operated upon.

Dr. T. W. Nuzum, Janesville, Wis., advised the use of acids.

He advises the patients also to drink only distilled water for some time afterwards.

After doing a perineal prostatectomy on a number of occasions with great success, he occasionally had a patient who did not retain his urine well after this operation.

He then learned from the Mayo Brothers how to do the buttonhole method prostatectomy. That looked beautiful, but the patients didn't do so well. The drainage wasn't so good and his results were not so good as by the former method, and then he took up the supra-pubic method which he liked still better. During the last two or three years, he has been doing the two-stage method in all his cases.

He drained one patient, a man eighty-eight years old, very feeble, and suffering intensely from prostatic obstruction, with a supra-pubic opening under local anesthesia. After steady improvement for six weeks he enucleated and the patient made a rapid recovery.

SUGGESTIONS FOR THE TREATMENT OF FRACTURES OF THE RADIUS AND ULNA AT THE MIDDLE THIRD.*

CHARLES H. LEMON, M. D.,
MILWAUKEE, WIS.

The subject under discussion while elementary is yet of sufficient importance to the younger practitioners of surgery to justify a few minutes' consideration before a society of this character.

If the text books on fractures had treated the subject intelligently there would be no excuse for taking up valuable time in discussing it. The text-books, however, do not treat the subject intelligently and many of the illustrations are misleading and the real dangers that confront the surgeon, as well as the skilled surgeon, are not presented and are not usually anticipated until valuable time has been lost when corrective measures could be applied and disaster averted.

I may be pardoned for suggesting to you that next to fractures of the hip joint the most difficult fractures I have experienced have been those of the middle third of the bones of the forearm. These have occurred usually in children between the ages of three and twelve. In frequency of numbers those that have been referred to me for subsequent treatment have been exceeded only by fractures occurring in the region of the elbow joint, also apparently difficult, but really very simple for obtaining ideal results if the proper technic is followed.

When we recall that the forearm of children is usually plump and that the bones are small and the muscles in a developing stage, very active, and bearing a relation to each other of two to three, as between extensors and supinators on the one hand and flexors and pronators on the other, we realize that we are dealing with anatomy which has potential possibilities when through the breaking of the bones at the middle of the forearm, a loss of balance occurs.

A study of the flexors and pronators in their relation to the extensors and supinators would be a most helpful one for the younger students of surgery. The fact is that when the bones are broken at the middle of the shaft the flexors immediately become the bowstring of a bow which tightens from day to day and produce a mathe-

*Read at the Tri-State District Medical Assembly held at Rockford, Ill., Sept. 1-4, 1919.

matically certain shortening by flexion on a line drawn from the palm to the elbow. Not once in a hundred times do surgeons realize the fallacy of attempting to fix these fractures by the application of anterior and posterior or more frequently internal and external splints. The usual picture that is presented by these cases when they come for review by consultation because of great deformity, is an anterior splint usually of wire, less frequently of wood, extending from the fingers to a point in front of the elbow, or less frequently encased in a plaster of Paris dressing and without exception with the bones of the forearm in a position midway between pronation and supination, with the thumb up.

It is an elementary principle in the treatment of fractures of the long bones that in order to overcome overriding or bowing the joints at either extremity of the long bone involved must be fixed by whatever apparatus is used for fixation. It becomes obvious, therefore, that in the treatment of fractures at the middle of the shaft of the bones of the forearm, not only must the hand and wrist be fixed, but the entire elbow joint, including at least a third of the shaft of the humerus, must also be fixed and used for extension.

Referring again to the text-books, we are told that in the position midway between pronation and supination the radius and ulna are at their widest point from each other. I have examined articulated skeletons with a view to corroborating this statement and my observation is that this is not the fact. Further, with the bones in this semi-prone condition at the wrist, it is impossible for any one to determine that they are even apposed at the point of fracture, no matter what the amount of extension and counter-extension may be.

Having this difficulty in mind and with a view also of neutralizing the one-third greater pull of the pronators and flexors and being assured that the relative position of the bones as to distance from each other is quite as great, if not equally so, as has been said is true of the semi-prone position, it has been my practice for many years to treat all these fractures, without exception, in a supine position with the palm of the hand up so that a plane passed horizontally through the arm and hand would divide the arm and hand into its anatomically correct position of an anterior and posterior surface.

If one is familiar with the use of plaster of Paris and has in mind the plumpness of these little forearms, which permits of bowing within a cast applied a few days after the fracture has occurred, when there is acute swelling at the site of the fracture, he will readily see the advisability of reinforcing the cast at the point of fracture. I have many x-rays showing that this condition actually occurred. In one instance in the hands of a usually careful man, who overlooked the necessity for strengthening the cast at its middle point, and who also failed to over-correct the deformity, anticipating the reduction of the swelling, he was obliged to defend a suit of malpractice because of this oversight. The cast was applied in the usual manner with the palm up and from the knuckles to a point one-third above the elbow, and at the end of three weeks when the cast was removed, an x-ray taken in the lateral plane shows a line, drawn from the lower anterior end of the radius to the upper part of the ulna that resembles the string of an Indian's bow. This entire bowing occurred within the plaster cast, as the swelling receded, and the flexor muscles asserted their balance of pull over the extensors. Again, most of these fractures that come under observation are green stick fractures, and this fact predisposes to deformity. If then, assuming for the purpose of argument that a plaster of Paris cast is the best appliance that can be used for the treatment of these cases, we will reinforce the cast at its middle, over the site of the fracture, reinforcing it so that at this point it has twice the thickness it has at any other point, and as the cast hardens we extend the forearm on a flat table and press the back of the hand and the elbow down so that they come in firm contact with the surface of the table, we can produce sufficient over-correction by extension to equalize the loss that will occur in the circumference of the arm due to its shrinkage, as the swelling incident to the fracture gradually disappears.

I would not be misunderstood to say that the application of a plaster cast is the only way to treat these fractures, because this is not either my experience or belief. In the great majority of cases, however, if one is familiar with the tricks that are incident to the use of plaster of Paris, in ninety per cent of the cases it will be found to be the most efficient dressing.

It must be borne in mind that a vast majority

of these fractures under discussion occur in children. Frequently where these cases have been intelligently treated the retentive dressings are taken off too early; the callus is much less firm for a given time than would be the case of adults and definite bowing can and does occur as a result of the greater pull of the flexors and pronators.

Too little, if any, emphasis has been laid upon this important matter. We have all seen this result occur in oblique fractures occurring at the lower end of the radius; the so-called oblique Colles' Fracture, and it has caused us many an anxious hour.

I would not have presumed to take up the time of the society with a matter so elementary as this if I had not been impressed by the frequency with which this bowing occurs, even in the hands of men who are more than ordinarily skilled in the treatment of fractures in general. The hungry lawyer and the deadbeat who never pays his bills are looking for these results to rob the surgeon of his hard earned fees. They are not satisfied to call the thing square and be satisfied with the remittance of the fee, which in the case of the treatment of fractures is absurdly low at all times, and when damages are assessed by juries they are out of all proportion to the fees that would have been collected by even the most skilled and well-known surgeons in most of our large cities.

I am presenting but one exhibit to illustrate what I have said. A mere look at the illustration will fix the thought to be conveyed absolutely in your mind.

I know that I am taking issue with all the text-books that I have been able to examine when I urge and recommend the use of the supine position as opposed to the thumb up and advocate the general use of plaster of Paris in treating these cases, doubly reinforced at the point of fracture and over-corrected, that is slightly bowed in the direction of extension to the thickness of the plaster of Paris, over the site of the fracture. Plaster of Paris should not be used in the treatment of these cases as a primary dressing. It will lead to disaster. For the first four or five days during which the swelling will reach its height, ordinary coaptation splints may be used, the point opposite the fracture being doubly padded to produce over-correction, and for this primary dressing it is not necessary in

my experience to use a splint which extends beyond the elbow joint, but at the end of five days, when the swelling is absolutely under control and when it has usually begun to recede, to treat these cases with a splint or any form of apparatus which does not extend above the elbow joint up the arm to at least one-third of its length, is to be guilty of gross error and the result shown in the illustration is certain to occur. Many of these fractures occurring at the middle of the forearm are sub-periosteal fractures, rather than green stick fractures and no displacement of the fractured ends occurs either laterally or antero-posteriorly. They are, therefore, comparatively easy to reduce. In many but little swelling in the forearm occurs and we are misled to believe that at the primary dressing a plaster of Paris bandage extending above the elbow is the proper primary treatment. If this is used, it should be removed not later than two weeks after it is applied, notwithstanding the fact that an x-ray taken through the cast after it is applied shows an absolute alignment in both planes. On account of the pliability of the soft parts of the arm and forearm, just enough shrinkage will occur in the average child to permit of the bowstring contracture of the flexors and pronators.

The treatment of the compound fractures which occur at this point I will not discuss. They are to my mind among the most difficult in the entire field of the surgery of fractures. In the hands of experts the results attained are usually far from the ideal and excepting at the lower third of the leg they are more frequently accompanied by secondary osteomyelitis of the bones. I therefore would not confuse the subject in hand by more than alluding to the complications that may attend the compounding of fractures at this point.

DISCUSSION

DR. JAMES P. DEAN, Madison, Wis., thought Dr. Lemon's paper shows a keen appreciation on the part of the author of the problems to be met with in this type of fracture, also the methods of mastering them to obtain a perfect functional result.

In the treatment of the ulna, he noted that the hand is the important member, the forearm being subsidiary in its movement to the movements of the hand, the radius being the more important of the two bones, in that movements of pronation and supination are controlled entirely by the radius which revolves around the ulna, the ulna being stationary. If the function

of pronation of supination is even slightly interfered with, disability occurs.

He endorsed the point brought out by Dr. Lemon that the radius and ulna are not at their widest point from each other midway between pronation and supination and approved the statement that all these fractures should be treated or dressed in extreme supination.

The outward curvature of the radius must be maintained, and to secure a functional result physiologically perfect the fractured ends must be held in perfect apposition without any possibility of displacement in the region of the fracture after the immobilization apparatus is applied.

DR. D. R. CONNELL, Beloit, Wis., asked whether the arm in the radiogram would correct itself in time to a great extent.

DR. C. B. KING, Chicago, Ill.: There is one point that I want to accentuate. You members of the Illinois Society will agree that I have had a little experience with malpractice in the past six or seven years. I am glad that Dr. Lemon called attention to the fact that the circular splint should not be used as a primary splint. We are running into those cases constantly. If you do put it on as a primary splint, you have to put it on so tight that you are going to get into trouble.

DR. H. M. FRANCIS, Woodstock, Ill.: This paper brought to my mind by contrast the treatment of fractures that was brought to my notice very forcibly last Spring. I did not observe it myself, but there were several doctors who did observe the treatment of fractures and who were just as dubious about it as I was and as you probably will be. Some of those, however, who observed it for weeks at a time almost got enthusiastic about it. It is so startling that I just present it here as something that we might think about.

The man who conducted this fracture clinic had some considerable reputation in Edinburgh for the treatment of fractures of the arm, including the collar-bone. His method was to use no splints, whatever. I asked different men about this repeatedly to find out if that was what they thought he meant, and they all, without exception, said that was what this man always stated in his clinics. One man who had visited those clinics for weeks and months told me that he had seen only one splint applied to the upper extremity in all that time.

I was considerably startled. I have always used splints, and I presume I will continue to use splints for some time to come, but the excellent results that this man got in his fractures and the reputation that he had in that community for excellent results ought to be considered. I might add that mal-practice suits in that community are almost unknown.

DR. JOHN F. HERRICK, Ottumwa, Iowa: In treating those fractures, the Doctor instructed not to use the plaster of Paris splint at first. If it is not good at first, why use it at all? I have treated my cases by putting on a flat splint and keeping it on until it is well. In that way, you get no bulging of the bones.

You can always see the condition of the arm. If you put it up in plaster of Paris, you can't see it and can't tell whether anything is going wrong. If you can see it every few days and find there is a little bulging, you can easily correct it, but if you put it up in a plaster of Paris splint and some accident happens, you are not aware of it.

DR. CHARLES H. LEMON (closing): In regard to what Dr. Connell asked, this arm, if left to itself, will not straighten itself out. It requires subsequent treatment in order to come out perfectly all right. If you keep in mind the principle of the bow, as I suggested, I think you will readily understand that it can not be improved.

Dr. Herrick's remarks or criticisms suggest something I once heard an Irish professor of mine say. He said, "Lemon, I can give you things to be understood; I cannot give you the understanding."

THE SPHENOID SINUS*

JOHN A. CAVANAUGH, M. D.
CHICAGO

The attention given by the medical profession to the sphenoid cavity is slight in comparison to the interest in other sinuses of the nasal passage, and to my mind it is of greater importance; it has closer association to vital structures and is more liable to complications; and I believe it high time that we as medical men, be more familiar with this subject. In a survey of the literature on nasal sinuses few articles are found dealing with the sphenoid cavity; which may be due to the fact that it is difficult to reach and examine. We are greatly indebted to Doctors Loeb, Sluder, Onoidi and others for their valuable contributions on the anatomy of this cavity and its relation to the surrounding structures. The lymphatic distribution from this cavity is still unsettled, and we are waiting for some one to throw light upon this phase.

The sphenoid cavity is located in the body of the sphenoid bone, but may extend into the adjacent bony structures, as its size and shape is very erratic.

At birth the future sphenoid cavity is represented by a small depression on the posterior nasal wall. It shows a definite cavity at three years and a well developed one at seven years. The sphenoid ostium is located about midway between the roof of the nasal cavity and the upper part of the choana narium. Its relation to the later wall will depend upon the development of

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the posterior ethmoid cells. It is usually oval in shape and about 2 m. m. in its long diameter and 1.5 m. m. wide.

It is not my purpose to take up each variety of the sphenoid diseases and discuss them, but to deal with the necessity of careful examination of our cases.

I make it a practice to examine very carefully the sphenoid sinus of all cases that complain of post nasal dripping, obscure cases of tinnitus aurium, headaches, obscure eustachian tube affections, posterior auricular pains without special local findings, pressure back of the eyes and tenderness of the eye ball, and I have been surprised at the finding in the majority of these cases.

The hyperplastic sphenoiditis type of disease which Dr. Sluder refers to in his text, is I believe the result of long continued irritation of this cavity which if diagnosed early and recognized would never have developed into this stage and the nerve involvement which he has so masterly defined would have been very much less.

The microscopical examination of tissue from the sphenoid made by J. D. Comrie and J. S. Fraser, shows that slight catarrhal changes in the mucous membrane were often found at post mortem, but genuine suppuration was rare. This should impress us with the necessity of careful clinical examinations.

I cannot but believe, many of the disorders of the pituitary body are secondary to a primary disturbance of the sphenoid sinus, because of its close relation to this cavity. Dr. Harvey Cushing in his text on "The Pituitary body and its Disorders"; states that it is not unusual for patients to mention an occasional unexpected and intermittent discharge of mucous into the pharynx. Dr. Cushing would lead us to believe this was the result of the diseased gland, but I think it is a question that remains for the Rhinologist to solve, which can only be done by careful clinical and post mortem examinations.

With sphenoid involvement the eyes are often affected and the patient consults an oculist. He does a refraction. Dr. W. C. Posey tells us that fortune is sometimes kind to the doctor in this error of diagnosis as no harm is done the patient, and a refraction may not only relieve the symptoms, but may actually cure them; not through relief of eye strain by correcting lenses but by

atropine which puts the ciliary nerve at rest and dries up the secretion in the sinus.

The suppurative sphenoids are not difficult to diagnose but the non-suppurative types require very careful and painstaking examinations. The routine use of the pharyngoscope in children and adults has been of great aid in my work, for without it many cases would have been overlooked. One must use the pharyngoscope frequently to become familiar with the normal and abnormal mucous membrane. In using the pharyngoscope I apply cocaine along the floor of the nose only to allay irritation that passing the instrument might provoke; never applying anything to other areas until I have first inspected them, I then apply cocaine to shrink the tissues for a better view.

Watson Williams states it is impossible to find the orifice and enter the sphenoid sinus in 50 per cent of the cases. In every instance that I have tried to probe the sphenoid, I have been able to do so, with the exception of one. Interested in knowing whether a sphenoid sinus was present in this case, I had an x-ray made which showed the cavity present and of rather large size. Because of the symptoms I decided to make an opening which I did, and as soon as the instrument entered the cavity the patient said, "I feel a relief of that pressure." He has been free of symptoms since, and I believe he had a vacuum sphenoid sinus, as no secretion was apparent, the osteum being closed accounted for my inability to probe the cavity.

In examining the sphenoid cavity, I first introduce a small probe to locate the opening, then dilate the opening by introducing graduated bougies, until large enough to introduce a small electric light into the cavity for transillumination, which I believe will be of great aid in examining these cavities, but the number I have examined in this manner is not sufficient to make any definite claims, however it does aid in outlining the size of the cavity. I have had a hood made to slip over the lamp, which directs the light in certain directions and helps in outlining the cell.

In cases which show an involvement of the sphenoid, after dilating ostium, I introduce a catheter, and attach a small syringe, which has about 5 c.c. of water, all sterile, and gently inject the solution into the cavity, and then draw it

back into the syringe, while the head of the patient is held back. After doing this three or four times, I have cultures made from the washings. The Columbus Memorial Laboratory reports one mixed infection, 3 staphylococci, 2 pneumococci and staphylococci. These were cases that had symptoms of sphenoid involvement but no pus perceptible. I expect to continue the examinations and later publish cases with their findings.

It is not necessary to discuss the subject of treatment at this time as I have nothing to offer, other than we all know. However, I hope to present something new along this line in a future writing.

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PERNICIOUS VOMITING WITH A PLEA FOR THE MOTHER.*

PAUL GARDNER, M. D.

NEW HAMPTON, IOWA.

Nearly every case of pregnancy at some time during gestation has some form of toxic condition; some patients will seemingly improve in health and will tell you they feel better while pregnant. While these cases are rare they do occur. The greater number, however, have morning sickness and a whole chain of nervous manifestations which as a rule soon clear up with the aid of the usual medical attention and especially diet, which in these cases is much neglected by the practitioner who tells the patients to expect some trouble, but that they will be all right after a while, etc. In my experience of over a 1,000 pregnancies covering a period of over twenty years it has been my misfortune to observe six cases of pernicious vomiting i. e., they would not respond to any treatment that we were able to render, until we emptied the uterus. Five of my own cases and one I saw in consultation went to a fatal termination.

Of my own cases, two were in the same patient some twenty years ago in which I produced an abortion; the patient recovered promptly, all vomiting ceased. The same can be said of my third case or second patient. The last two cases were in the same patient of which I wish to speak more definitely.

*Read at the Tri-State District Medical Assembly, Sept. 1-4, 1919.

Mrs. W., aged 24 years, on July 10, 1915, came into my office complaining of feeling hungry but could not eat as it made her vomit, she was a primipara about two months pregnant. Of a nervous temperament, weight about 110 lbs. temperature normal, pulse 80; she did very well for a few days then grew worse. Aug. 4, pulse 120, temperature 98. Aug. 5, pulse 130, temperature 97.5, looked badly, very weak. Aug. 6, I emptied the uterus; vomiting and nausea stopped immediately. July 31, 1916, was again called and found her two and one-half months pregnant and had been vomiting for two weeks and complained of considerable pain in and around the stomach. Pulse 70, temperature normal. As they were very desirous of having an heir, and thinking perhaps I had been unduly alarmed a year ago, we talked over the proposition of the expectant plan of treatment. Put a competent nurse in the home and did everything we could, but she kept going from bad to worse; some days she would feel fairly well, but always had a pain in her stomach and nausea. Finally on Sept. 25, 1916, I emptied the uterus again, but not until she was unable to turn over in bed and her pulse had gone to 140 and her temperature 97. She made a very slow recovery but finally got well after a stormy convalescence.

It goes without saying that all these cases were done under consultation.

C. S. Bacon in summing up the suggestion regarding treatment, says:

1st. The abnormal irritability of the nervous system, including the vomiting center, is to be allayed by keeping the patient in bed, by attention to the skin, bowels and kidneys, etc.

2nd. The hysterical condition which is so commonly found present should be controlled by strengthening the will and influencing the dominant ideas of the patient.

3rd. All sources of peripheral irritation should be discovered and removed.

4th. In extreme cases subcutaneous saline injections serve the three-fold purpose of diluting the blood and increasing vascular tension, eliminating toxins through renal and intestinal excretories and furnishing two most important kinds of food.

5th. Induction of abortion is never indicated. At a stage when it is safe and efficient it is not necessary, and in extreme cases it adds greatly to the danger, rarely stops the vomiting, and can be substituted by the artificial serum.

Just why we have these peculiar conditions in some pregnant woman is very hard to say, it is probably due to a acetonuria, which is the chief practical evidence of acidosis. Acetonuria may occur, however, without any glycosuria as in my case. At no time could I ever find any sugar in the urine, so it is important to remember that even a healthy person who is starved of carbohydrate food is apt to pass acetone in the

urine. This explains why it is that acetonuria occurs in such conditions as gastric ulcer, intestinal obstruction, and persistent vomiting of pregnancy, and probably many other conditions in which there is either actual or virtual starvation. Be this as it may, I cannot agree with those who hold that abortion is never justifiable or indicated, for what are you going to do for these patients?

After we have tried all sorts of treatment and our patient does not respond, but grows weaker, my advice is to empty the uterus and not to overwork the beautiful dream of watchful waiting. I do not pretend to give an authoritative answer to this subject; but I do contend that the conscientious physician should be untrammelled in his decision; that with a full sense of his responsibility to God and man and a consciousness of the duty he owes his profession, he should be allowed to follow the instinct to save life implanted more and more deeply in the medical mind as his experience grows.

No one has an unqualified right to life; the murderer's life is a forfeit to the law; the soldier's life is often a forfeit to the State. Neither law nor the church condemns this violation of the sixth commandment.

How much more merciful is medicine; how much less liable to condemnation, if it extinguishes a precarious life already doomed to extinction and in compensation saves a life still capable of preservation. Has not the woman herself a right to life? Has she not the right to demand the sacrifice of her embryo by the common law justification of self defense or even by the old Biblical law that "Whoso sheddeth man's blood by man shall his blood be shed?"

For if the presence of an embryo in the womb insures a woman's destruction, in what other light can it be regarded than as the potential murderer of its host, the mother?

The decision of this momentous question must be left to the physician who occupies the unique position in civilized communities of arbiter of life and death without Judge or Jury.

I am proud to think that it can safely be left to him, assailed with and resisting temptations greater than confront the average human being, daily giving his services for the benefit of his fellow creatures, constantly striving to do the right thing by the sick entrusted to his care.

DISCUSSION

Dr. T. F. Kinley (Rockford): I would like to ask the Doctor if he has tried any of the organic therapy treatments on the cases of vomiting. I see they are very highly recommended.

The Chairman: Are there any other questions?

Dr. J. E. Allaben (Rockford): Having seen one patient die with pernicious vomiting, I resolved, as the Doctor recommends, to try something. I had seen the dilation of the uterus would obviate the trouble by introducing a tent and leaving it in twenty-four hours. I found that it worked very well. One woman I had a few years ago had pernicious vomiting, and I introduced a tent and left it twenty-four hours and dilated the uterus pretty well and the vomiting was relieved and she came through in perfect condition.

The Chairman: Is there any further discussion? If not, Dr. Gardner will close it.

Dr. Gardner: I stayed away from the special medical treatment because you know if you get into that your paper would be altogether too long.

I have had no experience with organic therapy. I did not try it but I did try dilating the uterus. In fact, I tried to find and read everything on the subject and get every one's opinion, but it is like the consultation where there are too many doctors, it is not very good for the patient.

HIGH COST OF LIVING EFFECTS GENERAL HEALTH

An investigation was recently conducted by the municipal Health Department of New York into the effect of the high cost of living. The 2,084 families studied by the bureau represented an average cross-section of the city. At the beginning of 1918, twenty-one per cent had a total income of \$600 or less for the support of an average family of five persons. An additional thirty and a half per cent had a total income of from \$600 to \$900 a year, and about twenty-one per cent had an income of from \$900 to \$1,200. A little over nine per cent of these families were compelled to receive alms and in almost ten per cent of the homes the women were forced into industry. Special attention was given to the influence of the high cost of living on the children's dietary. In 293 families the use of bottled milk was given up. In 206 other families milk was entirely eliminated from the children's food, and in seventy-one the amount was considerably reduced. Butter was omitted from the children's diet in 370 families and the amount reduced in 191 families. Even sugar was denied the children in seventy-one homes and reduced in 139 instances. In 807 families the use of meat was entirely eliminated and in 388 families the amount purchased was appreciably reduced. Eggs were eliminated in 822 families and butter in 615 families. In studying the convalescence from illness the nurses found that 287 cases out of 2,183 were definitely retarded, due to inability to obtain the essentials of life. These figures need no comment.

ILLINOIS MEDICAL JOURNAL

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Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 4647 Dover Street, Chicago.

Membership correspondence to Dr. W. H. Gilmore, Mt. Vernon, Ill.

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State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

MAY, 1920

Editorial

MAKE HOTEL RESERVATIONS EARLY.

The annual meeting of the Illinois State Medical Society will be held May 18, 19 and 20 at Rockford. Owing to the crowded conditions at hotels, it will be necessary to make reservations at the earliest possible date.

The following hotels have agreed to charge only their regular rate:

- Chick Hotel, 123 S. Main street, 150 rooms, American plan.
 - East Side Inn, 222 E. State street, 60 rooms European plan.
 - Edward Hotel, 329 S. Main street, 65 rooms, European plan.
 - Grant Hotel, Mead Building, 30 rooms, European plan.
 - Hotel Blackhawk, 528 W. State, 50 rooms, European plan.
 - Hotel Mayer, N. Wyman street, 40 rooms, European plan.
 - Hotel Poole, 730 W. State, 37 rooms, European plan.
 - Rockford Hotel, 603 W. State, 37 rooms, European plan.
 - Illinois Hotel, 2091½ S. Main street, 80 rooms, European plan.
 - Nelson House, S. Main street, 365 rooms, European plan.
 - Park Hotel, 112 S. Church, 90 rooms, European plan.
 - Rood Hotel, 406 Elm street, 51 rooms, European plan.
- Hotel reservations should be made at once in order to avoid disappointment. Reports that are coming in indicate an attendance of upward of one thousand; it is advisable, therefore, to make early reservations to assure accommodations. All requests should be made direct to the hotels mentioned.

THE SECRETARIES' CONFERENCE

The attention of the members of the Illinois State Medical Society as well as the Secretaries of the County Societies is called to the program to be given at Rockford.

The Secretaries' Conference, while it is a part of the Annual meeting, is taken up in an entirely different manner from the general meeting.

The Conference last year was an excellent one composed of addresses given by Secretaries who had by their special energy and ability placed their own County Societies in the lime light.

This year's program is intended to be a real Conference and it is hoped that the meeting will be one, which may be remembered by every one present as such.

Every Secretary who has at any time received the annual dues of the members of his local Society, and every member who has ever paid his dues to the Secretary of his local Society, should be present and help to make this the most-interesting Conference in the history of these meetings.

T. D. DOAN,
Secretary.

EYE, EAR, NOSE AND THROAT SECTION.

The Eye, Ear, Nose and Throat Section of the Illinois State Medical Society has arranged a splendid program for the Rockford meeting; they have also made arrangements for an excellent banquet.

The officers of the Section extend a special invitation to all men interested in this special line of work to make a strenuous effort to attend the Rockford meeting. Dr. Fringer of Rockford is making a great effort to make the clinical part of the meeting a success.

FRANK ALLPORT, Chairman.
C. F. Burkhardt, Secretary.

THE HIGH COST OF PUBLISHING THE JOURNAL.

Owing to the marked advance in the cost of paper, union labor, etc., the expense of publishing the JOURNAL has advanced over 100 per cent. in a comparatively short time.

At the present time the cost of labor is the highest in the world's history. In order to whip the JOURNAL into shape for publication each month it requires the constant attention of several people. This service costs money, yet little consideration is given to this item by the average doctor and even by many of the officers of the county societies.

Little details that should be looked after by the author or the county secretary are very frequently overlooked and this accumulative neglect is heaped up on the editor's office, and the cost of unraveling it is many times greater than if looked after at the sources as it should be.

Papers are frequently sent for publication without even the title, the name of the author or the name of the County Society before which it was read. It costs time and money to trace

this paper to its source and get the necessary data. Recently we received a batch of ten papers sent by the secretary of a medical society and not one of them contained the title, name of the author, or the name of the organization before which the paper was read. Ultimately, we were sent a program with a suggestion that we could dig the information out ourselves.

This "Let George Do It" spirit is a very shiftless way of doing business and is an extra tax on the treasury. The details mentioned should be attended to by the author and in case he fails to do so it should be detected and remedied by the secretary of the respective society.

If these little details are looked after as they should be, a considerable saving could be made annually in getting out the JOURNAL. We ask the co-operation of all in helping to maintain the efficiency of the JOURNAL and at the same time keep the cost of publishing as low as possible.

HOW MANY HAVE YOU SENT HIM?

Last month a certain old practitioner in Chicago mailed letters to physicians with the request that patients be referred to him for "absent treatment." Among other naive statements in the letter was the following: "Don't class me with Christian Scientists and New Thoughters; I use *Volotherapy* — Will-therapy — which is strictly scientific."

The following effusion shows the effect the letter had on one of us:

THE QUACK'S DREAM

OR, How to Do 'Em Good

Dedicated to S——n L——t

Some folks, when they dream of riches, think they have to learn a trade; but the modern quacks or witches put all schooling in the shade. Formerly the medic student used to burn the midnight oil; now the quack on pelf intendent studies how the scads to 'spoil. Branches four no longer hold him pouring over musty tomes; bunk's appeal is e'er before him luring to unnumbered "bones." What's the use of mental training? Latin's language of the dead; suckers every minute straining to be trimmed from foot to head. Christian Science for the sinner, or spondylotherapy. Absent treatment is a winner, why not *Volotherapy*? Guilders, kronen, kreutzers, rupees, farthings, kopecks, shekels, yen, falling in a golden shower far beyond a Croesus' ken!

H. G. O. —After Walt Mason (a long way).

ILLINOIS STATE MEDICAL SOCIETY

SEVENTIETH ANNUAL MEETING

Rockford, May 18, 19 and 20, 1920

Registration Office, Headquarters and Exhibit Hall in basement of Shrine Temple.

First Day—Tuesday Afternoon

2:00—Eye, Ear, Nose and Throat Clinics, Rockford Hospital.

2:30—Call to order of the Society in General Session, by the President, J. W. VanDerslice of Oak Park. Elks Club.

3:00—Call to order of Secretaries' Conference by the President, F. C. Gale of Pekin. Elks Club.

4:00—Meeting of Committee on Credentials for House of Delegates. Elks Club.

First Day—Tuesday Evening

6:30—Banquet of Section on Eye, Ear, Nose and Throat, Nelson House. Price per plate, \$3.50. All desiring to attend should notify Dr. W. R. Fringer, Rockford, Ill.

8:00—Call to order of the House of Delegates by the President, J. W. VanDerslice. Elks Club.

Second Day—Wednesday Morning

9:00—Call to order of the Sections for the reading and discussion of the papers of the program.

Section on Surgery, Shrine Temple.

Section on Medicine and Public Health and Hygiene.

Section on Eye, Ear, Nose and Throat.

Elks Club, Christian Union Church.

12:00—Adjournment for luncheon.

Second Day—Wednesday Afternoon

2:00—Call to order of the Society in General Session by the First Vice President, George Weber of Peoria, Shrine Temple. All Sections are expected to adjourn until after the General Meeting.

President's Address, J. W. VanDerslice, Oak Park.

Oration on Surgery, "Surgery of the Gall Bladder and Ducts," Geo. W. Crile, Cleveland, Ohio.

Oration on Medicine, "Diseases of Pitui-

tary Glands," William Englebach, St. Louis, Mo.

Reconvening of the Sections.

*Second Day—Wednesday Evening**Third Day—Thursday Morning*

9:00—Call to order of the Sections for the continuation of the program.

12:00—Adjournment for luncheon.

Third Day—Thursday Afternoon

1:30—Call to order of the Society in General Session, Elks Club. Induction of the President-elect.

2:00—Reconvening of the Sections.

5:00—Final adjournment.

OFFICIAL PROGRAM

SECTION ON SURGERY

C. W. Poorman, Chairman.....Oak Park
Geo. S. Edmondson, Secretary.....Clinton
Shrine Temple, Wednesday, May 19, 1920, 9 a.m.

1. The Long Interval in Two Cases of Skull Fracture—E. S. Murphy, Dixon, Ill.

Discussion—George W. Thompson, Chicago.

2. Defending the Carrel-Dakin Treatment—W. E. Potter, Oak Park.

Discussion—William Fuller, Chicago.

3. "Colon Malfusion" (symptoms and analysis of 100 case histories)—Roland Hazen, Paris.

Discussion—T. I. Motter, Oak Park.

4. Diagnosis and Treatment of Osteomyelitis—A. J. Ochsner, Chicago.

Discussion—J. F. Percy, Galesburg.

5. The Treatment of Bone Cavities from Chronic Osteomyelitis—Carl Beck, Chicago.

Discussion—Carl Black, Jacksonville.

6. X-Ray Manifestations of Diseases of the Lungs—Robt. E. Lee Gunnings, Galesburg.

Discussion—E. S. Blaine, Chicago; J. V. Fowler, Chicago.

7. Hospital Standardization—C. E. Humiston, Chicago.

Discussion—Mr. F. W. Shepardson, Springfield.

M. L. Harris, Chicago.

8. Surgical Diseases of the Abdomen Complicating Normal Pregnancy—N. P. Harlin, Freeport.
Discussion—C. S. Bacon, Chicago.
 9. Peripheral Nerve Injuries, Diagnosis and Treatment—Dean D. Lewis, Chicago.
Discussion—E. P. Sloan, Bloomington.
 10. Fracture of the Skull—Geo. N. Kreider, Springfield.
Discussion—J. H. Walsh, Chicago.
 11. A Plea for Early Operations in Kidney Tuberculosis—Daniel Eisendrath, Chicago.
Discussion—Frank Buckmaster, Effingham.
 12. Trocar Thoracotomy versus Rib Resection in the Treatment of Empyema—O. F. Shulian, Quincy.
Discussion—J. H. Evans, Chicago.
 13. Bone Surgery—J. F. Golden, Chicago.
Discussion—D. W. Deal, Springfield.
 14. The Treatment of the Ruptured Appendix—John L. Sloan, Bloomington.
Discussion—Dean Lewis, Chicago.
 15. Applied Mechanics in Bone Surgery—Paul B. Magnuson, Chicago.
Discussion—T. A. Bryan, Mattoon.
 16. The Technique for the Removal of Foreign Bodies—W. M. Thompson, Chicago.
Discussion—George N. Kreider, Springfield.
John A. Green, Rockford.
 17. Abscess of the Tongue—John C. Dallenbach, Champaign.
Discussion—H. J. Stewart, Oak Park.
 18. Hernia of the Bladder—Leigh F. Watson, Chicago.
Discussion—W. B. Peck, Freeport.
C. U. Collins, Peoria.
 19. Treatment of Some Pelvic Inflammations—C. H. Tierman, Decatur.
Discussion—Hugh MacKechnie, Chicago.
 20. The Surgical Treatment of Gastric and Duodenal Ulcer With a New Method of Pyloroplasty—Alfred Strauss, Chicago.
Discussion—Milton Portis, Chicago.
Joseph C. Friedman, Chicago.
 21. The Laboratory as an Aid in the Diagnosis and Treatment of Diseases of the Thyroid Gland—Oscar J. Elseses, Chicago.
Discussion—N. M. Percy, Chicago.
 22. Transfusion of Blood at a Distance—V. D. Lespinasse, Chicago.
Discussion—E. S. Murphy, Dixon.
 23. The Technique of Goiter Operations—E. P. Sloan, Bloomington.
Discussion—Paul Oliver, Oak Park.
 24. Experiences and Changes Taken Place in Twenty-five Years' Appendicitis Operations—E. M. Sala, Rock Island.
Discussion—D. W. Graham, Chicago.
 25. Strumectomy, Safe and Effective—Weller Van Hook, Chicago.
Discussion—W. F. Grinstead, Cairo.
 26. Some Practical Phases of Local Anesthesia—John R. Harger, Chicago.
Discussion—F. G. Dyas, Chicago.
 27. Traumatic Fracture With Complicating Nerve Lesions—Orlando F. Scott, Chicago.
Discussion—H. C. Mitchell, Carbondale.
 28. Three Days versus Three Weeks in the Hospital for Hemorrhoidal Operations (lantern slides)—J. Rawson Pennington, Chicago.
Discussion—L. D. Howe, Streator.
 29. Diagnosis and Treatment of Cervical Ribs—Carl B. Davis, Chicago.
Discussion—G. L. McWhorter, Chicago.
 30. A New and Efficient Method for the Use of Wire in Bone Surgery—James M. Neff, Chicago.
Discussion—M. P. Rogers, Rockford.
 31. Fibroid Tumors in Pregnancy—Aimé Paul Heineck, Chicago.
Discussion—J. H. Edgecomb, Ottawa.
 32. Interpretation of Early Abdominal Symptoms from a Surgical Standpoint—F. D. Moore, Chicago.
Discussion—W. J. Carter, Mattoon.
 33. Surgery of the Gall Tracts, Without External Drainage—H. M. Richter, Chicago.
 34. The Patient After the Operation—J. W. Hamilton, Mt. Vernon.
- SECTION ON MEDICINE AND PUBLIC HEALTH AND HYGIENE
- SECTION ON MEDICINE
- Elizabeth B. Ball, Chairman.....Quincy
W. L. Callaway, Secretary.....Chicago
- SECTION ON PUBLIC HEALTH AND HYGIENE
- G. G. Burdick, Chairman.....Chicago
J. H. Siegel, Secretary.....Collinsville

Elks Club, Wednesday, May 19, 1920, 9 a.m.

1. Doctors and the Public Health—C. W. Lillie, East St. Louis.
2. Foreign Bodies in the Brain. Illustrated with lantern slides and with special reference to Roentgenological Findings—Harold Swanberg, Quincy.
Discussion—C. C. Rogers, Chicago.
3. Diagnosis of Heart Lesions Simplified—John Weatherson, Chicago.
4. Individual Preventive Medicine—Anna Weld, Rockford.
5. Differential Diagnosis of Gall Bladder Disease and Duodenal Ulcer—Leon Bloch, Chicago.
6. Mouth Infection and Systemic Disease—W. M. Hartman, Macomb.
7. Hygiene, the Best Prophylaxis in Tuberculosis—M. W. Harrison, Collinsville.
8. The Need of Strict Enforcement of Notification in Cases of Diagnosed and Suspected Pulmonary Tuberculosis—Eugene J. O'Neill, Chicago.
9. The Diagnostician's Role in the Tuberculosis Problem—Curtis F. Lyter, St. Louis, Mo.
Discussion of three preceding papers—Geo. T. Palmer, Springfield; J. W. Pettit, Ottawa; O. W. McMichael, Chicago.
10. The Radium Treatment of Goiter—A. N. Claggett, Chicago.
11. Stramonium and Its Untoward Effects—W. E. Shastid, Pittsfield.
12. The Significance of Cardiac Murmurs—C. J. McMullen, Chicago.
13. Plans for Development of Efficient Health Organization in Cities and Rural Sections of Illinois—C. StClair Drake, Springfield.
Discussion—I. N. Neece, Decatur; H. N. Heflin, Kewanee; E. W. Fiegenbaum, Edwardsville.
14. Is Progress Being Made in Controlling Venereal Disease?—C. C. Pierce, M. D., U. S. Public Health Service, Washington, D. C.
15. Early Diagnosis of Syphilis—C. C. Kost, Dixon.
16. The Management of Syphilis—Louis D. Smith, Chicago.
17. A Case of Syphilis of the Stomach With Negative Findings in the Blood and Spinal Fluid—Sidney A. Portis, Chicago.
18. A Rational Program for the Prevention of Pollution of Lakes and Streams—Mr. Paul Hansen, Urbana.
19. A Housing Code for Illinois—Senator Harold Kessinger, Aurora.
20. Intestinal Stasis, Its Cause and Treatment—Katherine B. Luzader, Greenville.
Discussion—D. T. Brown, Mulberry Grove.
21. A Plea for the Bedtime Toilet—C. B. Johnson, Champaign.
Discussion—J. W. Pettit, Ottawa.
22. Bronchopneumonia With Some Complications—G. W. Rice, Galena.
23. Cubism in Medicine—Geo. F. Butler, Chicago.
24. A Constitution in Making—Chas. E. Woodward, President Constitutional Convention, Ottawa.
25. The Fatality of Industrial Electric Currents—Frank Chauvet, Chicago.
26. The Caloric Method of Bottle Feeding in Normal Babies—L. O. Frech, White Hall.
27. The Spastic Factor in Arterial Hypertension—Karl K. Koessler, Chicago.
28. Twilight Sleep—Elizabeth R. Miner, Macomb.
Discussion—Bertha M. Van Hoosen, Chicago.
29. Diagnosis of Duodenal Ulcer With Lantern Slide Demonstration—R. L. French, Chicago.
30. Early Diagnosis and Treatment of Pulmonary Tuberculosis—D. A. Brown, Peoria.
31. Glucose Intravenously—Geo. P. Gill, Rockford.
32. Influenza Epidemic, 1920—J. J. McShane, Springfield.
Discussion—E. O. Jordan, Chicago.
H. N. Bundesen, Chicago.
Victor C. Vaughan, Detroit, Mich.
E. W. Weiss, Ottawa.
33. The Treatment of Nervous Irritability and Excitement—Edward Jacobson, Chicago.

34. Legal Aspect of Birth and Death Records and the Duty of the Physician to His Clients—Robert J. Folonie, General Council, Chicago.

Discussion—M. O. Heckard, Chicago.

T. C. Roome, Evanston.

35. The State and Its Interest in Conservation of Health and Life of Its Children—C. W. East, Springfield.

Discussion—Elizabeth B. Ball, Quincy.

G. C. Runkle, Stockton.

36. The Use of the X-Ray in the Treatment of Carcinoma—H. A. Chapin, Jacksonville.

37. The Etiology of Pulmonary Tuberculosis—Robt. S. Berghoff, Chicago.

38. Some Observations on the Trend of Federal Legislation Affecting Public Health Organizations and the Medical Profession of the United States—Fred R. Green, Chicago.

39. The Location of the Apex Beat in Relation to Diseases of the Chest—Max Biesenthal, Chicago.

40. Some Fundamentals of Public Health Work—John Dill Robertson, Chicago.

Discussion—W. A. Evans, Chicago; Herman Spalding, Chicago; F. O. Tonney, Chicago.

Discussion—John Dill Robertson, Chicago.

W. A. Evans, Chicago.

Herman Spalding, Chicago.

41. Points in Infant Feeding of Value to the General Practitioner—Jesse R. Gerstley, Chicago.

42. R. C. Bourland, Rockford.

SECTION ON EYE, EAR, NOSE AND THROAT

Frank Allport, Chairman.....Chicago

Chas. F. Burkhardt, Secretary.....Effingham

Christian Union Church, Wednesday,

May 19, 1920, 9 a.m.

1. Some Problems in Intra-Ocular Tension—Thomas Faith, Chicago.

Discussion—H. H. Brown, Chicago.

2. A Glaucoma Question—Michael Goldenburg, Chicago.

Discussion—Dwight C. Orcutt, Chicago.

3. Surgery of the Ethmoid Labyrinth—A. H. Andrews, Chicago.

Discussion—Carroll B. Welton, Peoria.

4. Observations in Sphenoid Sinus Disease—John A. Cavanaugh, Chicago.

Discussion—Chas. H. Spears, Champaign.

5. The Roll of the Nasal Accessory Sinuses in the Production of Eye Diseases, with stereopticon slides—R. J. Tivnen, Chicago.

Discussion—R. C. Matheny, Galesburg.

6. The Eye in Its Relation to Diseases of the Nose, Throat and Teeth—Oliver Tydings, Chicago.

Discussion—A. L. Adams, Jacksonville.

7. Treatment of Chronic Dacryocystitis by Curettment—H. W. Woodruff, Joliet.

Discussion—Chas. B. Voight, Mattoon.

8. Peri-Tonsillar Abscess and Its Radical Treatment—Louis Ostrom, Jr., Rock Island.

Discussion—Watson William Gailey, Jr., Bloomington.

9. Severe Complications of the Head and Neck, Following Influenza—J. C. Beck, Chicago.

Discussion—Frank Brawley, Chicago.

10. Some Mastoid Complications—J. Sheldon Clark, Freeport.

Discussion—Norval H. Pierce, Chicago.

11. Differential Diagnosis of Functional and Organic Lesions of the Inner Ear, Nerve Pathways and Central Nervous System, with lantern slide demonstrations—Chas. M. Robertson, Chicago.

Discussion—Harry Kahn, Chicago.

12. Is the Human Eye Degenerating?—Willis O. Nance, Chicago.

Discussion—Thomas O. Edgar, Dixon.

13. Diseases of the Retina—Wesley H. Peck, Chicago.

Discussion—W. L. Noble, Chicago.

SECRETARIES' CONFERENCE

F. C. Gale, President.....Pekin

H. A. Chapin, Vice-President.....Jacksonville

T. D. Doan, Secretary.....Scottville

Elks Club, Tuesday, May 18, 1920, 3 p.m.

1. President's address—F. C. Gale, Pekin.

2. How to Improve the Secretaries' Conference. General Discussion.

3. Efficiency of a Secretary—T. D. Doan, Scottville.

4. The Non-Attending Member—E. W. Fiegenbaum, Edwardsville.

EXHIBITORS

Horlicks' Malted Milk.	Medical Protective Co.
G. D. Searles Co.	W. B. Saunders Co.
Child's Drug Co.	A. S. Aloe & Co.
Lavoris Chemical Co.	Burdick Cabinet Co.
Radium Co. of Colorado.	Fellows Medical Mfg.
Mellin's Food.	Co.
Radium Chemical Co.	G. H. Sherman Co.
John McIntosh Co.	American Surgical Spe-
Abbott Alkaloidal Co.	cialty Co.
C. H. Phillips Co.	Calco Chemical Co.
Chas. Schmidt Co.	Haynes Stellite Co.
C. V. Mosby Co.	

MEDICAL VETERANS

Medical veterans of the world war meet to organize Illinois section, Wednesday, May 19, one o'clock, at Christian Union Church, Rockford. Luncheon served at about one dollar. Every Illinois physician in service or on draft boards should attend. Write at once, saying you attend, to Dr. John Tuite, Rockford.

PATERNALISM RUNNING WILD

TWO HUNDRED AND FIFTY MILLION DOLLARS
FOR SOCIALIZING PROPAGANDA

Senator Kenyon of Iowa, in speaking for Senator Smith's vocational rehabilitation bill (S. 18) would, in his own words, make "the bum that falls off a railroad train while stealing a ride" the object of the federal government's most tender solicitude. He is to be educated by the federal government, reclaimed, lifted to a plane of usefulness and transformed from a local liability to a national asset, to which Senator King of Utah objected, using the following language: "If the federal government may go into the states and take the individual and educate him, either industrially or mentally, then I cannot see any reason why the federal government may not support him while he is being educated. Further, if there is an obligation to educate him, there is a corresponding obligation upon the federal government to feed him and clothe him during that period, if poverty prevents him from feeding and clothing himself." (Congressional Record, June 26th, p. 1965.) "I would not draw the line personally at that," returned Senator Kenyon. "I would not object seeing the federal gov-

ernment take care of him while he is getting his training."

Following this line of reasoning to a final conclusion we can see no reason why this paternal benevolence should not be extended to the pugilist who happens to be disabled in a scientific encounter, or to the highwayman who is so unfortunate as to get shot and become disabled in attempting to relieve some honest citizen of his money or property by stealth or strong arm methods. Senator Kenyon's remarks leave no doubt as to the scope of his sympathy and is illustrative of the line of reasoning of many men in America today who have been inoculated with the germ of Bolshevism.

Today Washington, D. C., is a hotbed of Bolshevism, the following bills asking appropriations of two hundred and fifty million dollars is of vital interest to physicians and taxpayers.

Senate Bill 233, introduced by Senator Robinson, provides for state maternity and infancy care and carries an appropriation aggregating \$9,480,000 for use up to June 30, 1924, and \$2,000,000 annually thereafter. This money shall be paid to each state, provided the state appropriates a like amount, for the purpose of promoting the care of maternity and infancy in rural districts, provide instruction in hygiene of maternity and infancy, and making such studies, investigations and reports as the Chief of the Children's Bureau may direct. A State Board of Maternity Aid and Infant Hygiene shall be appointed in each state consisting of the Governor, a representative of the State Board of Health, a representative of the nursing profession, a representative of the teaching profession who shall be selected from the state university or the state college of agriculture. This board shall cooperate with and be under the supervision and direction of the Children's Bureau, of the Department of Labor, Washington, D. C., Public Health nursing consultation centers, medical and nursing care for mothers and infants at home or at a hospital, especially in remote areas, may be provided for out of these funds. All facilities shall be available for all residents of the state, but the Board may require payments of fees for services rendered and all such fees shall revert to the state treasury.

Senate Bill 1017, introduced by Senator Smith, provides for the creation of a Department of Education and appropriates \$100,500,000 for its purposes. This bill provides for state aid in the organization of school medical inspection and sanitary services.

Senate Bill 2507, introduced by Senator (Dr.) France, provides for the creation of a Department of Health, "and other purposes," with a Secretary of Health as a member of the Cabinet, and carries an appropriation of \$63,000,000 for such purposes. It provides for the federalization of all state, municipal, county and township health officials and places them

under the supervision and direction of the Secretary of Health at Washington. It provides for suitable "central offices for each health subdivision" and for "a comprehensive national plan for regional hospitals and sanatoria to be supported jointly by state and federal governments in order that adequate free facilities may be provided for all those suffering with infections, particularly tuberculous as well as surgical diseases, for the cure and eradication of said diseases." Every cooperating state in order to receive the federal funds, must contribute a sum at least equal to that contributed by the federal government. The sum of \$48,000,000 is allotted to the states, in proportion to their population, for the construction of sanatoria and hospitals.

Senate Bill 2359, introduced by Senator Shepard, appropriates \$20,880,000 for maternity and infant care.

House Resolution 10510, introduced by Mr. Mann (S. S.), appropriates \$2,500,000 for state aid in rural sanitation.

House Resolution 10925, introduced by Mr. Towner, appropriates \$16,480,000 for maternity and infant hygiene.

House Resolution 12652, introduced by Mr. Fess, provides for the promotion of physical education in schools and appropriates \$10,500,000 for state aid for this purpose.

House Resolution 5724, introduced by Mr. McDaffie, provides for the creation of a Federal Department of Health and appropriates \$10,000,000 for its purposes.

Senate Bill 814, introduced by Senator Owen, provides for a National Department of Health and leaves the amount to be appropriated blank.

The appropriations provided for by these bills aggregate \$233,740,000.

Adding to this sum the many millions otherwise appropriated for the U. S. Public Health Service, the Children's Bureau, the Vital Statistics Division of the Census Office, the Interdepartmental Board of Social Hygiene, would probably bring appropriations for this work up to four hundred millions or perhaps a half a billion dollars. This is going some, to say the least.

Where will it all end? We know where it endel in ruined Russia? Are we a people so favored that we can sow the wind and fail to reap the whirlwind, that we can play with pitch and clude defilement, set in motion efficient cases and escape effects, establish a system of autocracy embracing every human activity, and continue to be a Nation of free people, a Republic and indestructible union of indestructible States?

It has been said that the king can do no wrong and that Parliament is omnipotent, but even Parliament cannot create adjacent hills without intervening valleys. Can the people of America set up Bureaucratic Autocracy in Washington without a resulting industrial slavery? Perhaps; but only in those idyllic days when the lion and the lamb lie down together and when without

restraint the festive cow shall vault over the silvery moon, and everywhere, by act of Congress, five is the sum of two plus two.

As a stabilizer of the great wave of paternalism now sweeping over America we would like to ask where is the old fashioned American who belonged to the pioneer days, who blazed his way through the forest, built his little home in the clearing, who fought under the flag in defense of that local self-determination guaranteed by the constitution, who sent his children to the little red school house, worshiped God according to the dictates of his conscience and scorned to have another do for him what he, at whatever cost of pain and toil, could do for himself.

It is an old saying that men are wise if they are wise in time. The current of present day paternalism thought is strong. Paternalism was the curse of Germany and ultimately brought about its downfall. Bolshevism and extreme Socialism have ruined Russia. Experience of these countries should teach America how not to go. It is a part of social wisdom to erect breakwaters which will deflect erring currents into socially useful channels. The principles of justice, personal freedom, of natural rights and duties must furnish the materials for an effective breakwater against the devastating current of the paternalistic trend of the times in America.

Unless the drift towards Bureaucratic Government is stopped, Americans will be the most ruled and standardized people in the world, and we will need armies of citizens to enforce all the laws; by and by we shall all be government employees, earning our pay by watching one another. Then, surely, the millennium will have been reached.

THE BLOOD PRESSURE MANIA

READINGS VERY MISLEADING AND NOT IN CONFORMITY WITH ACTUAL CONDITIONS

The mania is characterized by the delusion that the health, happiness and in fact the very existence of patients with alleged hypertension hang entirely on the results of frequent taking of blood pressure.

At present the craze is being worked overtime in certain pseudo-scientific circles where physical examination and clinical experience are dis-

counted in favor of supposed short cuts of diagnosis, prognosis and cure.

In the past, fads such as trephining in microcephalus, ovariectomy in obscure nervous diseases in women, appendectomy, tuberculin, x-ray, focal infection, thyroidectomy, arsphenamine, Wassermann test, etc., have all gone through the fad stage, have taught their lesson and are today being used in a sane manner.

With blood pressure as with previous valuable medical discoveries what we have to contend with is the exaggeration of its importance by enthusiasts. At present its value as a means of diagnosis is overestimated; valuable methods of diagnosis are being subordinated by blood pressure examinations under the belief that it is the last word in the detection of disordered conditions of the body.

We have no fixed standard for measuring blood pressure, because of inability to find a satisfactory apparatus. The Bureau of Aeronautics recently wrote the Bureau of Standards, Washington, D. C., as follows: "We understand that there is an investigation going on or is about to proceed to establish standards in blood pressure apparatus and setting a degree of tolerance for the guidance of physicians in general."

The chief physicians of one of the large insurance companies recently wrote to one hundred of the leading diagnosticians of America asking for information on blood pressure; not a single physician definitely answered the question as to what blood pressure is, or what causes it.

The situation is well stated by Dr. Harold W. Dana (J. A. M. A., May 17, 1919). He says: "The more I study blood pressure, the less sure I become of the accepted interpretation regarding the test. Certainly, while I have as much respect for blood pressure readings as ever, I feel that we must get a new conception as to the factors influencing the readings."

As a working hypothesis blood pressure may be said to be a barometer of mechanical functioning of the body. That there is a normal blood pressure for each individual is universally accepted and where we fall short of a proper interpretation of the subject is in our attempt to measure all mankind by the same yard stick. We make the positive statement that there is considerable variation in the normal blood pressure of different individuals. What is normal

for one may be abnormal for another. Blood pressure is susceptible in the same normal variations in different people as is stature, pulse rate, or the activity of secreting glands, and what is normal blood pressure for an individual can only be determined by observation over a period of time.

Many factors are responsible for errors in determining normal blood pressure, therefore, before we can derive any benefit from readings we must rule out all fallacies and extraneous influences which tend to militate against its accuracy. These are defective instruments, psychic influences, excitement, pain, the difference in blood pressure between the two arms and the position of the patient when the blood pressure is taken. Of these factors inaccurate instruments and psychic influences are by far the most important.

Sixty-five per cent of aneroid instruments are unreliable and should never be depended upon unless checked by mercury instruments. Even with the mercury machines there is a wide variation of readings in instruments put out by different manufacturers. The writer (with Dr. Tice of Chicago) in examining a case of supposedly hypertension utilized five different well-known mercury instruments and found no two readings alike; there was a variation of twenty-eight points between the highest and the lowest.

There is an apparent difference in blood pressure between the two arms, but as a matter of fact the pressure in both arms is the same, the difference being entirely psychic and that regardless of the positions of the patient and regardless of which arm is taken first; the higher reading is in a vast majority of cases in the arm taken first, the difference amounting as high as 38 mm. of mercury and is most marked in a standing position and least marked in a recumbent position; the difference in the sitting position being almost as high as the standing position.

At the present time nervous or psychic influence as a cause of temporary hypertension is not given the consideration it should have. Mental impressions cause vaso-constriction with resulting hypertension. Instances of vaso-constriction are frequently found in those subjected to nervous strain and worry, the blood pressure jumping 20 to 75 mm. or more because of fear, fright, or the mention of an unpleasant or worrying topic.

We have seen many examples of temporary hypertension resulting from psychic disturbances. The following examples are typical of many:

The writer, while serving on a retiring (pension) board where many applicants were compelled to undergo physical examination to determine their fitness to retain their position, found that many of the applicants showed marked results of fear and anxiety on blood pressure. In one case there was a drop of 75 points in the 15-minute interval between the first and second examination, the applicant having no warning that re-examination would be given. This interesting phenomenon was corroborated by four reputable physicians. Before this same board there were several cases which showed a drop of 40-50 points between the first and the re-examination.

Today we are seeing many cases of psychic blood pressure disturbances following the "flu." The following are typical of many. A young aviator, 24 years old, home from service a short time; repeated examination while in the service showed him to be physically perfect. January, 1920, taken down with severe attack of "flu," showing marked disturbance of the nervous system. When convalescing, his blood pressure was: systolic 180, diastolic 98; he was apparently self-controlled in the interval between the doctor's visits. While he had known the doctor for many years, nevertheless, he became greatly excited on hearing his voice or approaching footsteps, his heart beat would jump to 130 a minute, face would become markedly flushed and there was apparent complete loss of control of the nervous system. This condition continued for a long time. After many weeks' rest in bed and several additional weeks of rest and appropriate treatment at home he completely regained his former condition, his blood pressure resumed his normal reading, namely, systolic 125, diastolic 84.

Another case, a physician who five years ago, while undergoing a complete roentgen x-ray examination by one of America's foremost roentgenologists, was told that he had a spastic condition of the lower bowel, a condition the roentgenologist claims he found frequently in bankers, lawyers and business men subjected to much mental work and anxiety. In January, 1920, he had a mild attack of "flu," was considerably fatigued and depressed for several days. Four weeks later examination by a strange physician showed hyper-

tension, diastolic 98, systolic 170. Considerable disturbance followed this diagnosis. Examination two weeks later by another physician showed diastolic pressure 98, systolic 190, the latter dropping 30 points within ten minutes after first reading. Deciding personally to check up on his blood pressure readings with a certified Baum mercury instrument, he found the following to be the real condition. Repeated tests taken three times a day over a period of weeks demonstrated conclusively that the former high readings were purely psychic, the average of 100 readings showed diastolic 90, and systolic 132, and that there was very little variation in the readings taken several times a day without regard to exercise, eating, etc. In connection with this case it is interesting to note that a complete x-ray examination following within a few days after the diagnosis of hypertension showed complete absence of spasticity of the bowel, suggesting the possibility of the influence causing spasticity having been transferred from the bowels to the blood vessels.

Another case typical of many others: A middle-aged lady, anemic with low blood pressure, much run down as the result of work, worry and care of a family having many cases of "flu," one day when fatigued from shopping and considerable time spent with the dentist, became very nervous, developed a condition approaching hysteria and nervous break down. She was taken home and put to bed. Her blood pressure next day showed systolic 190, diastolic 100. The blood pressure readings fluctuated very little over a period of six weeks. As a result of rest and proper treatment she gradually improved in strength and energy. The hypertension rapidly resumed normal as her general condition improved.

Dr. Oliensis, Philadelphia (N. Y. M. J., Feb. 28, 1920), says: that the psychic influence alone may raise the pressure 38 mm. of mercury and often higher. This was brought forcibly to my mind by the blood pressure readings of a patient of a physician whom we all know. This physician and I both obtained the same high blood pressure when he was with the patient, while I was able to get a pressure 30 to 40 points lower when he was not there. The patient's blood pressure was invariably raised by that physician's presence.

Dr. Norris states that fear, excitement or psychic impressions have a marked effect on blood

pressure. In taking one's own pressure, higher results are often found than those obtained by another observer immediately before or afterwards, simply as the result of psychic concentration. Sehrumpf relates an instance in which anticipation of an unfavorable prognosis raised the pressure of a patient $33\frac{1}{3}$ per cent. to fall again promptly when reassurance was forthcoming, only to rise once more when complaining of his insomnia and worries. Gibson found that his own pressure was increased from 35-40 mm. after delivering a lecture. Due allowance for variability of the systolic pressure must always be made in neurotic patients.

Von Recklinghausen observed in his own case a rise of 14 mm. caused by the entrance into his presence of a person whom he intended to berate. Puterman found that the anticipation of an examination almost without exception raised both blood pressure and pulse rate in school children. In extreme cases psychic states may cause a rise of 90 mm. Hg., generally in association with marked pleasure, anger or fright. The diastolic pressure in these cases is practically unaffected.

In cold weather a chilly cuff applied to the arm both by the displeasure it causes the patient, and by the stimulating effect it has upon the vaso-motor nerves, may yield erroneous readings in high strung individuals.

"It sometimes happens that the initial systolic blood pressure reading on a given subject yields distinctly higher figures than can be attained in subsequent attempts. Gallavardin and Haour found in a study of 100 cases that this initial high pressure, which may amount to 35 mm., may last 15 minutes, although in fifty per cent. of the cases the normal point was reached at the end of five minutes."

At the present time we do not positively know the meaning of systolic and diastolic pressure. Until the subject is standardized, readings will be at variance with the real facts. We quote here with the conclusions of several authorities qualified to speak on the subject of blood pressure values. Norris, in his treatise on the subject of hypertension, says: "A systolic pressure finding constantly above 160 mm. Hg., or a diastolic pressure constantly above 100 mm. Hg. is definitely pathological at any age."

Major (Dr.) Harold W. Dana, Boston, formerly chief cardio-vascular and lung examiner,

Medical Officers Training Camp, Camp Greenleaf, Ga., during the late war makes the broad statement that high systolic pressure readings do not mean what they once meant. He declares, further, that repeated systolic readings of 200 mm. Hg. may have little significance, and that we are all wrong about the value of blood pressure readings.

With regard to the meaning of the diastolic blood pressure, I feel that our present conceptions are even more wide of the mark. Observers in general feel that the diastolic pressure represents the power of the heart to maintain the circulation. In aortic regurgitation, in hyperthyroidism, and in "irritable heart of soldiers," we may have a greatly lowered diastolic pressure without necessarily any actual failure of the muscle power of the heart. Many clinicians feel that a diastolic pressure above 100 mm. indicates a myocardial defect. With this point of view I cannot agree. I believe, as do many others, that a systolic blood pressure of 150 or 160 mm. may be normal for a man 50 years old. To my mind, the ratio 2:3 for the diastolic and systolic pressures, respectively, should be maintained by the normal heart regardless of the rise or fall of pressure; and with a pressure of 160 mm. systolic, I believe that an intact circulation would show a diastolic pressure of from 105 to 110 mm.

Recently I have had the opportunity of studying blood-pressure findings in a large number of army officers and candidates for commissions in the army, chiefly in men over 30 years of age, medical officers being in a large majority.

Most of the medical officers examined came to camp from a considerable distance, and were examined the day after their arrival, without opportunity for rest after the long journey. Being physicians, they were almost universally very nervous over the ordeal of the examination. Most of them were naturally constipated, and this constipation was increased by the journey, by the change of routine, and by the change in diet. To many, sleep under camp conditions was at first difficult. From all of these causes, it was not surprising that a large number of the candidates showed an elevation of the systolic blood pressure. In a great majority of such cases, however, rest, catharsis, and the fact of becoming accustomed to the new routine of life, soon brought the blood pressure down to within normal limits. It served to demonstrate in a very striking way the effect of overwork, nervous strain, psychic stimulation, and constipation, in raising blood pressure.

One fact that impressed me particularly is the frequency with which one meets a familiar hypertension. Such a condition of continued elevated systolic pressure, in which most members of particular families share, the tendency apparently being hereditary, does not seem in such families to cause invalidism or to shorten life. Indeed, it has seemed to me that many such individuals with a sustained hypertension continue to have better than normal health and robust-

ness; and that the hypertension, if it were not actually the cause of this, at least went hand in hand with their abundance of strength.

With a superabundance of energy and an abnormal vitality, one physician, 48 years old, 6 feet tall, weighing 190 pounds, hard as nails and the picture of health, had a constant systolic pressure of 190 to 200, with a diastolic of 110 to 120. He told me that his father was over 80 years of age, vigorous and active, in spite of a systolic pressure that had been around 200 mm. for years. The officer in question and his brother, three years his senior, had each of them presented similar pressures for years, yet had the best of health. This officer showed a negative urine, a normal heart, no thickening of the peripheral arteries, and normal eye grounds.

Such a condition shakes our faith in any preconceived standard for normal systolic pressures. These familiar hypertension cases as a general thing, in my opinion, can be accepted as representing to all intents, and for that particular family, a condition free from serious organic disease.

Another type in which there is difficulty in setting down a standard for normal blood pressure is the case in which the hypertension is compensatory to renal or arterial disease. In this general category come those cases in men of 50 years or over in which the blood pressure has assumed a probably normal and physiologic elevation. Taken by and large, our conception as to what represents an unduly high systolic blood pressure in a given individual must take a good many facts into consideration, must be highly individualized, and must have considerable latitude, both as to the standard accepted and the interpretation to be placed on deviation from the standard.

Certainly I am not at all willing to concede that a high blood pressure, for example, 200 mm., means necessarily any of the things that we have always agreed that it did mean. It does not seem to me a proved fact that marked hypertension necessarily causes apoplexy, that it necessarily increases the probability of apoplexy, or of renal or arterial disease, or of ill health of any kind. If marked hypertension means of a certainty any of these things, why do some men live to far beyond the average age, in spite of continued marked hypertension of long duration? Granted that some pathologic condition would have been found present after death in these cases; granted that signs of nephritis or arterial degeneration might have been present, proof is still lacking that the hypertension was the result of the lesions found; for, after all, if there were not some cause for the termination of life, these fortunate beings would have lived forever; and in my opinion any man who enjoys reasonably good health and an active life—as many men with marked, continued hypertension do—until past 75 or 80 years comes to his final end for the reason that his body is not immortal and is constructed to last for only seventy years or thereabouts.

Dr. D. Nathan, Norristown, Pa., Captain in the Canadian Army Medical Corps, says that blood pres-

sure as an aid in diagnosis is commonly accepted, but that high blood pressure has the significance given it by the general practitioner is debatable. Even if the instruments as yet perfected were infallible as a guide to exact blood pressure, there are still several factors to be reckoned with, e. g., local arterial conditions, local increased peripheral resistance, where the reading would not measure anything but the pressure of the blood stream passing through the vessel occluded by the cuff.

In the Heart Hospitals in England less account was taken of the blood pressure than of other clinical factors and with as good results, I think. The forms later adopted by the Canadian Medical Board required taking the blood pressure when the pulse exceeded 90, and of course the faster the heart beats, other factors upon which blood pressure depends remaining the same, the blood pressure will rise correspondingly. I can say this, that in the examination of thousands of men, many of whom have spent most of four years in trenches, high blood pressure was of little importance. Among these were cases of disordered action of the heart with blood pressure bearing in many cases above normal. Few cases complain, many cases being discovered by the medical officer examining. Fortunately the battalion medical officer did not carry a sphygmomanometer which he could flash on every Tommy on sick parade, else we would have had the high blood pressure, neurosis, to cope with.

We have seen several cases recently of comparatively young men with obsessions of high blood pressure when actual blood pressure did not exist, the high readings recorded being due solely to psychic disturbances. Two instances recently came to our attention of young men thirty years old who were carrying around a bundle of high blood pressure readings not in conformity with real conditions. The mental upset induced by psychic concentration and their fear of approaching dissolution was pathetic in the extreme. Certainly it is time to call a halt in the blood pressure craze and prevent as far as possible the rapidly increasing number of hypertension neurasthenics. Standardization of the subject of blood pressure is the only solution of the problem.

WASTING THE MEMBERSHIP MONEY.

Each month we are presented with a bill by the printers for approximately \$50.00 for authors' changes and corrections. This represents a waste of six hundred or more dollars of the Society's money each year. This is extravagance and not a legitimate charge against the cost of publishing the JOURNAL.

Papers sent for publication are accepted in good faith by the editor. Practically all of them have been read before a medical society and for this reason it is presumed that the article is a finished product.

After receiving the paper (either directly from the author or the secretary of the medical society before which it was read) the editor in the regular course has the article set up and proof sent to the author for his O. K. Only mistakes in orthography, punctuation or linotype errors are legitimate items for correction in the proof.

Recently after a paper was set in type and proof submitted the author rewrote the entire article expecting the Society to stand the double expense of resetting. Many physicians seem to feel that even after an article is set up and proof submitted they are at liberty to rewrite goodly portions of it. This attitude is not fair to the editor, the membership of the society, or the board of trustees charged with the responsibility of conserving the Society's exchequer.

We believe the rank and file will see the justice of our position and that during the coming year we will be able to keep this unnecessary expense at the minimum.

STATE MEDICAL SOCIETIES OF OHIO AND INDIANA HAVE DISCON- TINUED FULL TIME EXECU- TIVE SECRETARY.

The reasons for discontinuing a full time secretary has not been ascertained at this writing. We are anxious for enlightenment on this point for the reason that a considerable number of physicians in Illinois have been advocating the very thing that Ohio and Indiana have after experiment discontinued. Certainly results were not in keeping with expectations, otherwise the scheme would not have been discontinued.

CLARIFYING THE NURSING PROBLEM.

She found from the French surgeons overseas that the care and recovery of soldiers operated on, sick and wounded, was as satisfactory when they were looked after by French women of three months' training, as they were under the exclusive care of three years' trained nurses.

A late number of *Southwestern Medicine* has a good paper on the need of more nurses than can at

present be obtained in that part of the country. Our own Maine General Hospital also, at its annual meeting lately, complained of fewer applicants for nursing than ever before. Whether this lack of trained nurses is true for all parts of the nation, we do not know. On the ground, however, that nurses are needed always, it is for us to say something on this important topic concerning public health. In so doing we utilize some hints from the paper above mentioned, which argues that since the great war ended there has been a lack of applicants for instruction in nursing, and a lack of training bases. The chief trouble seems to be in the higher requirements and the longer course of training now insisted upon. California, for instance, at the demands of the State Department of Health, compels a woman who wants to be a nurse to come forward with four years of a high school education, together with an equivalent year in chemistry, household economics, physics, biology and one foreign language. After passing a rigid examination on such a foundation of study, the nurse must promise to spend four entire years in a hospital before she can appear for final examination for registration.

To a distant observer it would seem that any young woman who had mastered all of these requirements for a mere entrance examination to become a nurse would do a great deal better for herself to go ahead and study medicine and practice that for a living, rather than limit her broad scope of education to being merely a nurse, no matter how thoroughly trained.

The writer of the paper mentioned objects to such extreme demands and requirements, and says that she found from the French surgeons overseas that the care and the recovery of operated and sick or wounded soldiers was as satisfactory when they were looked after by French women of three months' training as they were under the exclusive care of three years' trained nurses.

The whole thing lies right here, is trained nursing to be a humane vocation or an educated business? Is it not plain that the higher the requirements and the longer the training demanded for nurses, the higher is going to be the cost to the patients? What with higher nurses' wages and higher medical fees, the end plainly in sight from these two heavy demands upon the incomes of the sick, patients operated on and the injured is just one thing—state wages for the trained nurses and the trained physicians alike.

We ask, now, if there is not some hospital in Maine in which in one single year any smart young woman can learn how to take care of the ordinary sick patient with skill and humanity combined, leaving to the three years' trained nurses or the four years' trained nurses the more exacting and scientific care of the surgically operated and accident cases, and the training for official positions such as superintendents of nurses, and also of hospitals?

We know of many simple country women of today who go about in their little villages doing good work for the sick at moderate prices. All that they

need sometimes, in some difficult cases, is a little more experience and a little more book education. Even as they are, they are excellent servants of reality, amidst the ups and downs of health and illness in a scattered population like that of Maine. From the ranks of such women, the demand for visiting and district nurses could well be filled in the present scarcity of higher and longer trained nurses from the hospitals, brought about by too high requirements and too prolonged an education for the position which they have to occupy.—*Maine Medical Journal*.

RUBBING IT IN A LITTLE TOO MUCH FOR THE GOOD OF THE NURSING PROFESSION.

In one sense the increase in the charges of trained nurses from \$25 to \$35 and \$40 per week may be justified, for we realize that nurses have to pay the increased cost of wearing apparel and everything else that is purchased, but in another sense the decided boost is not justified because the nurse is furnished board and lodging while nursing, and in reality it is the cost of food which enters most largely in the drain on incomes. Then, too, this demand of some trained nurses that duty shall consist of eight hours only at one stretch is "rubbing it in" a little too much for the good of the nursing profession. Scant wonder that there is a demand for a lowering of the nursing standard, which is being met by certain nurses' training schools requiring about one-third or one-half the time formerly required to complete the course. The "practical nurse" also is becoming more popular, and to add to the woes of the trained nurse the public is beginning to take more kindly to hospitals for any and all kinds of sickness, merely as an economic measure. In fact, hospitals are now full to overflowing with many patients who would remain in their comfortable homes except for the exactions and demands of the trained nurses. The average family cannot afford trained nurses at the advanced rates, and many families cannot pay the faithful doctor anything but the most modest fees, and all too often the doctor charges his account to charity, whereas the trained nurse seldom if ever renders services without being adequately paid. Nursing is a noble profession, but it is disgraced by those nurses who refuse to take only the easy cases, who make unreasonable exactions as to conditions of service and who, on the whole, make their work purely a matter of convenience, comfort and profit to themselves. Good nurses are appreciated and should be well paid, but they should consider the duty involved in caring for the sick and suffering who not always can be classed with the easy cases when requiring a nurse's care and are not always wealthy enough to afford two or three nurses, on eight-hour shifts, at \$35 and \$40 per week. We have the greatest admiration for the well trained, conscientious and faithful nurse, and we will aid her in securing appropriate compensation and reasonable treatment from those

who employ her, but we believe that the growing objection to so many trained nurses who are commercializing their profession is thoroughly justified. Nursing associations can do nothing better for the nursing profession than to purge its membership of those who evidently are trying to find out how much the sick can be penalized.—*Exchange*.

THE FEE IS EIGHT CENTS A VISIT. THE MEDICAL PROFESSION OF GERMANY WILL BE RUINED.

THE WORKING OF HEALTH INSURANCE IN GERMANY.

Quite recently, the *Kölnische Zeitung* reminded its readers that every political party in Germany, including the most extreme Socialists, were united in praising the medical profession for its devotion, skill, and self-sacrifice during the war. But physicians cannot live merely by fine words, and the National Assembly, without protest from any of the political parties, has sanctioned alterations in the regulations for compulsory insurance that will ruin the profession. Before the war, the compulsory insurance scheme applied to the laboring classes and to those who earned incomes less than \$625 per annum. Persons who could satisfy the authorities that their earned incomes did not exceed \$1,000 per annum were also permitted to join the scheme if they so desired. The fees which physicians received on behalf of those insured persons worked out to not more than eight cents a visit, with the result that to make a living a physician had either to undertake more work than his own health or his medical conscience could justify, or to increase his income by private practice.

The Center brought up a proposal to raise the limit of compulsory insurance to incomes of \$1,000 per annum, and of voluntary insurance to \$1,500. The Socialists proposed that the compulsory limit should be \$1,500 and that there should be no limit to voluntary insurance. The Socialist scheme was adopted, with the result, it is rumored, that some 21,100,000 persons who formerly were private patients will not be under the insurance scheme—and the medical profession will be ruined.

PHYSICIANS' UNION UNITES WITH THE FEDERATION OF LABOR.

We note in an Eastern medical journal that some two hundred doctors in New York and

Brooklyn have formed a union and have applied to the American Federation of Labor for a charter. The next step we presume will be the fixing of union hours, a scale of wages and overtime charges, defining of apprentices and helpers and the staging of a strike or two. Just about then some utopian idealist will apply for a restraining injunction and blooey—up goes the doctor's union. And yet they say New York and Brooklyn is to be the medical center of the world—well, probably the union is needed for a welcoming body for Russian and German visitors—*I. M. J.*

NEW YORK MERCHANTS' ASSOCIATION FINDS HEALTH INSURANCE A FAILURE.

NEW YORK MERCHANTS' ASSOCIATION ADOPTS REPORT
WHICH DECLARES COMPULSORY SYSTEM IN
EUROPE HAS NOT ATTAINED ENDS
SOUGHT.

Compulsory health insurance is opposed as unwise and un-American by the Merchants' Association of this city, which has just adopted a report of a committee to that effect. It is noted that compulsory health insurance came from Germany and has spread to other European countries, including England. With its most careful application in Germany and in England, the committee found that in neither country had it attained the end sought.

"Morbidity has not appreciably decreased," says the committee, "and in some cases it has actually increased, and the mortality rate cannot be said to have been affected by health insurance. Malingering or simulated sickness has developed, and fraudulent practices have been indulged in to an alarming extent by those seeking benefits. Furthermore, particularly in England, the quality of the medical service has deteriorated. The physicians are not willing to give more than cursory attention to the cases of insured patients, and to facilitate their work they reduce the number of remedies to a minimum. Because of burdensome drug regulations and the demand on the part of sick funds for economy, the tendency is toward cheap medicines of inferior pharmaceutical value. Consequently, the results constitute a close approach to quack practice.

USE OF AUTOCRATIC WEAPON

"In principle, state health insurance has conformed to the Socialist ideas and tendencies of the people of European countries, and in Germany it also worked out satisfactorily as one of the autocratic weapons by which the ruling classes kept the working classes content and impotent. It is fundamentally inconsistent with prevalent American ideas of the proper rela-

tion between the government and the people, which are neither paternalistic nor Socialistic.

"In principle, compulsory health insurance is in accordance with the Socialistic tendencies to relieve the individual of responsibility and place it upon the state or upon the individuals in mass, and it is also paternalistic and inconsistent with the American idea of fostering the initiative, self-reliance, and responsibility of the individual.

"In accordance with the spirit behind the distinctive American idea of full responsibility of and opportunity for the individual, organized labor in this country has long and insistently maintained that the only just method of paying for the services of Labor is in money at a sufficiently high rate to enable the wage earner himself to obtain those things which he alone determines to be essential to his welfare and happiness.

SOUND WAGE DOCTRINE VIOLATED

"This is a sound wage doctrine conducive to initiative, thrift, and individual liberty. It is violated by compulsory health insurance, by which the State determines for the wage earner how he shall protect himself and family from sickness, compels him to divert a definite portion of his earnings for this purpose, and provides that part of the reward for his services must be accepted in the form of health insurance rather than in wages.

"There is no assurance that compulsory health insurance would materially affect unemployment or increase the efficiency and general health of workers through prevention or decrease of illness due to poverty and consequent lack of proper medical, surgical, and dental attention. The vast majority of the 4,000,000 or more wage earners of the State of New York are able to obtain adequate medical attention and now receive as much medical attention as is generally considered necessary. Only a minor percentage of the wage earners suffer impairment of health or loss of productivity through financial inability to obtain proper medical attention.

NOT ALL WORKERS COVERED

"Furthermore, it has been commonly understood that much more than the normal amount of sickness and poverty is found among workers who would not be covered by health insurance, such as temporary or casual workers, workers in small establishments employing fewer than eight persons, where working conditions are generally below normal, and home workers in cities. Without doubt those wage earners who would be subject to the health insurance law, who under present conditions lack medical attention when sick because they are financially unable to obtain it, would receive medical attention, and only to this extent would compulsory health insurance result directly in decrease of sickness and unemployment, and in the elimination of poverty. In this connection, however, it should be emphasized that the number of workers falling in this class is an exceedingly small percentage of the total."

HAVE A HEART

SURGEONS TAKE BULLET FROM HEART; MAN LIVES

Omaha.—A surgeon at St. Joseph's Hospital here took the heart out of Steve Zakich, an Austrian who had shot himself, removed the organ and sewed up the incision. Kakich is now practically out of danger.

The operation was performed when the bullet had been in Zakich's heart nearly thirty-six hours. The first doctors to see the man after he had shot himself thought he would die in a few minutes.

IS THIS A NEW SKIN GAME?

Springfield, Jan. 26.—Dr. C. St. Clair Drake, director of public health, today appointed Dr. E. C. Gaffney, an assistant collaborator and epidermologist attached to the department of public health and detailed him to Lincoln, where Dr. Gaffney will report health conditions, especially relative influenza, and co-operate with the local health officials there in the curbing and eradication of disease.—*Pekin Free Press*.

A REFUTATION OF FALSE STATEMENTS IN PROPAGANDA FOR COMPULSORY HEALTH INSURANCE (Continued from page 294)

"Prevention is primarily the purpose of insurance and certainly its result."

(Public Health Bulletin, No. 76, by Warren and Sydenstricker, p. 49.)

It would be far more true to say that, "to provide jobs for political incompetents is primarily the purpose of compulsory insurance and certainly its result," for that would be at the least a half truth, whereas the assertion above is certainly wholly false.

Scientific treatises on insurance are unanimously to the effect that the function and primary purposes of insurance is to provide indemnity for losses.

As to its "result," indemnity naturally tends to produce indifference to prevention. Practical experience has revealed methods for counteracting that tendency. But whether a given system of insurance will tend to prevention or the contrary must be doubtful until demonstrated by experience. And, as has just been shown (*supra*, pp. 5-11), experience with compulsory health insurance does not demonstrate what is asserted above.

"Compulsory insurance will stimulate the needed campaign for the prevention of illness."

(Brief for Health Insurance, American Labor Legislation Review, June, 1916, p. 230.)

This is an assumption unsupported by reason or experience.

It stands to reason that it would be more difficult for the state to provide the means for an adequate campaign of prevention while its resources are being drained to support an expensive system of insurance relief.

There is not a particle of valid evidence to indicate that provision of the public means for the prevention of illness has progressed any faster in

Great Britain and Germany, with compulsory insurance, than in the United States, without compulsory insurance.

Indeed, the evidence indicates that in Great Britain since the adoption of National Health Insurance (until the war) provision of hospitals, sanatoria, and other means for cure and prevention, has lagged inordinately. (Cf. The New Statesman, March 14, 1914, Supplement.)

It is true that in Germany many such-vaunted sanatoria, forest resorts, holiday colonies, etc., (cf. Public Health Bulletin No. 76, p. 61), have been set up as "side shows" to the *invalidity* insurance. But the character of these institutions has been so perverted by politics and otherwise that they are condemned as substantial means either of cure or prevention by a host of German medical authorities. ("The Future of Social Policy in Germany," by Bernard, p. 7; and cf. "The Practical Results of Workingmen's Insurance in Germany," by Friedensburg, pp. 25, 24; and "Criticism of a Tentative Draft of an Act for Health Insurance," by Tecumseh Sherman, pp. 44-45.)

"The last report of the National Health Insurance Administration (for 1913-14) showed that the new system was 'touching nearly every field of human endeavor' and was 'accumulating data of material importance' 'in solving social problems of reform'."

(Public Health Bulletin No. 76, by Warren and Sydenstricker, p. 61.)

The above is simply a reiteration of some of the National Health Insurance Administration's own self-laudations. The report referred to *says* what is quoted but does not *show* it. On the contrary that report is simply a mass of comments on administrative methods and problems, without any "data of material importance."

"The Insurance Commission has a Chief Medical Officer, but he issues no medical report * * *. As far as official sources of information are concerned the public has been left entirely in the dark regarding the influence the National Insurance Act has had on the health of the people. No statistics relating to the health of insured persons have been issued by the Commissioners; no steps have been taken to provide Insurance Committees with suggestions or schedules of lectures on Public Health; and no leaflets have been issued on the care of health. * * *. Though the Commissioners have issued many hundreds of circulars, orders and memoranda, not one of these has, up to the present, borne directly upon the fundamental object of the act, viz., the prevention and cure of sickness." Even such an obvious and simple matter as prescribing a uniform system of terminology to be used by the doctors has been neglected, with the result that the medical records, even if compiled, would be almost useless. (Brend's "Health and the State," Chap. VII.)

Confirming what has just been said, the recent Health of Munition Workers Committee obtained no assistance or "data of material importance in solving social problems of reform" from the National Health Insurance, as is apparent from the absence of any reference thereto in that committee's reports. (Bulletin 249, U. S. Bureau of Labor Statistics.)

"You can cut down invalidity one half by proper sickness insurance."

(J. P. Chamberlain, before House Committee of Congress on Labor and Social Insurance and Unemployment; cited, Hoffman, "Facts and Fallacies of Compulsory Health Insurance," p. 32.)

There is absolutely no experience in the world indicating that sickness insurance can reduce invalidity, much less cut it in half.

Chiefly in consequence of social insurance, the average life expectancy of the German people increased between 1870 and 1900 from 36 to 48 years; and "vastly the larger part of the average twelve years added to a lifetime was between the ages of say 18 and about 60."

(M. M. Dawson, quoted by Hoffman, "Facts and Fallacies of Compulsory Health Insurance," p. 47. Cf. Dr. Israel Strauss, Hearing on Mills Bill, March 7, 1917.)

This proposition is a delusion.

The leading authorities are agreed, to the contrary, that during the period specified the life expectancy of Germans in the productive ages between 15 and 60 increased, not 12, but only about 1.6 years. In this respect Germany does not shine particularly in comparison with the non-insurance countries. (Hoffman's "Facts and Fallacies of Compulsory Health Insurance," pp. 47-53; Dr. George E. Tucker, Hearing on Nicoll Bill, March 26, 1918.)

And this relatively insignificant advance is also claimed as the result of other reforms in which Germany has "led the world."

Compulsory health insurance would reduce the amount of time lost by wage-earners in employments.

(James M. Lynch, Hearing on Nicoll Bill, March 26, 1918; Warren H. Pillsbury, at Commonwealth Club, San Francisco.)

This is an assertion contradicted by experience. Under compulsory sickness insurance, between 1890 and 1913, the number sick at one time, out of every 100 insured, increased, in Germany, from 36.7 to 45.6, and in Austria from 45.7 to 51.8; the average number of days "on the cash benefits" per insured member increased, in Germany from 6.19 to 9.19, and in Austria from 1.98 to 9.45; and the average number of days compensated per sick member increased, in Germany from 16.2 to 20.2, and in Austria from 16.4 to 17.4. (Cf. Research Report No. 6, National Industrial Conference Board, 191, p. 15; and authorities cited.) Only German and Austrian experience is cited for the reason that the statistics of no other experiences are obtainable—all the other compulsory systems, except the Hungarian and Luxemburgian, being of very recent date.

Compulsory sickness insurance providing maternity benefits, as in the Mills and Davenport Bills, is desirable to reduce infant mortality.

(Miss Mary Arnold, Hearing on Mills Bill, March 7, 1917; Miss Lillian D. Wald, Hearing on Davenport Bill, March 19, 1919.)

This is an instance of a mistaken remedy; for experience shows that such benefits are peculiarly inefficient to reduce infant mortality.

In 1914, the Interim Report of the Committee of Enquiry, Fabian Research Department, referring to the maternity benefits under the British Act, said:

"Experience has shown that it is administratively difficult to deal with pregnancy by the ordinary rules of sickness benefit or satisfactorily with confinements by an unconditional and unsupervised money grant. Moreover, the present scheme leaves some millions of mothers outside its scope." Therefore it was recommended that the maternity benefits should be removed from the insurance, and the problem dealt with by a public medical service for all needy mothers. ("The New Statesman," March 14, 1914, Supplement, p. 29.)

This recommendation was partially followed in 1919. But in the meantime "The New Statesman," December 1, 1917, returned to the charge and published a finding that the National Health Insurance "has had no appreciable effect in diminishing infant mortality." To same effect, see Brend's "Health and the State," Ch. VII., and Report for Medical Officer of Hampshire, 1913, quoted Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 159.

Experience in Germany is similar. In 1910 the infantile mortality in Germany, after 27 years of health insurance, was 16.2 per cent of births, whereas in England and Wales, without any health insurance then, it was only 10.5 per cent, and in Massachusetts, in 1913, it was only 11 per cent. (Hoffman's "Facts and Fallacies of Compulsory Health Insurance," p. 41.)

Experience in Australasia confirms this British and German experience.

In Australia a maternity bonus has been paid since 1912, aggregating £662,035 in 1916, and although it was generally accepted, 36 per cent of all births were unattended by a physician, and, in the five years 1911-1915 inclusive, the infantile mortality was but slightly reduced, falling only from 68.49 per thousand births in 1911 to 67.52 in 1915. In New Zealand, on the other hand, in the same period, the infantile death rate fell from 56.31 per thousand births to 50.05—the lowest infant mortality rate in the world. This reduction was due to a vigorous campaign of public health education and the establishment of women's and children's hospitals, without insurance or any money payments. An Australian Commission, studying the problem, has recently reported in favor of the adoption of the New Zealand system. (Research Report No. 6, National Industrial Conference Board, pp. 17-18.)

Compulsory sickness insurance, along the lines of the Mills Bill, would provide corrective medical treatment for youthful defectives.

(Dr. Israel Strauss, Hearing on Mills Bill, March 7, 1917.)

It would not. It would insure only against the risks of future sickness.

Neither the British health insurance nor any of the European sickness insurance laws undertake to

cure old physical defects and infirmities (cf. *infra*, p. 29).

"Just as employers have installed safeguards for dangerous machinery, in order to reduce the cost of workmen's compensation, so in order to reduce the cost of health insurance they will supply, for instance, better sanitation, ventilation and lighting, more physiological hours of labor and fuller consideration for the special needs of women and children."

(Prof. Irving Fisher, quoted by Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 46.)

This is an assumption unsupported by reason and contradicted by experience.

The accident compensation liability incites employers to safeguard machinery, etc., for the reason that the relation between accidents and their causes is generally direct and clear, whereas the relation between employees' illnesses and such matters as general sanitation, ventilation, lighting, etc., are generally so remote as to be practically imperceptible to the lay mind. Moreover, under the accident compensation laws generally, each employer is individually liable for the accidents in his employment only, and can secure a prompt credit in his insurance premium rates by needed expenditures for accident prevention, whereas under health insurance laws generally nothing that an individual employer may do to improve the sanitary conditions in his employment will have any immediate or certain effect upon his contribution rate. It is true that some of the governmental health insurance laws contain provisions to penalize employers for exceptionally insanitary conditions; but such provisions are dead letters (see Brend's "Health and the State," Chap. VII.).

"Health insurance is not a measure for prevention, because it hides and does not disclose responsibility. To make any progress in preventive work you must first fix the responsibility and then assess it." ("The Fallacious Philosophy of Health Insurance," by Frank F. Dresser.)

As to experience, the evidence is plentiful that the accident compensation liability has aroused employers to vigorous and expensive efforts for accident prevention, whereas there is not a particle of evidence that compulsory health insurance has ever had any such effect. (Cf. Hoffman's "More Facts and Fallacies of Compulsory Health Insurance," p. 46.)

"The same principle was applied to accidents in the Workmen's Compensation Act that Health Insurance seeks to apply to sickness."

(Senator Davenport, in N. Y. Senate, April 10, 1919.)

This is a most incorrect assertion.

Workmen's compensation is merely a new form of an age-old legal liability of employers, based upon a juridical principle (known throughout Europe as the principle of "trade risk") which requires proof of a causal connection between the employment and

the injury as a condition to liability, whereas health insurance, in the form proposed in the Davenport Bill, would impose upon employers collectively an entirely novel liability for half the cost of relieving certain misfortunes of employees collectively, regardless of causation.

There is no analogy between workmen's compensation and compulsory insurance in respect to prevention. An accident affects one individual or at most a limited number. Sickness, on the other hand, particularly in its communicable forms, is carried from one to the many and may involve a large part of the community. As such it is a matter for health officers and not for insurance.

Compulsory insurance would reduce the public expense for poor relief.

(Warren H. Pillsbury, at Commonwealth Club, San Francisco.)

This statement miscolors a partial truth to serve as a bait to attract taxpayers to support compulsory insurance. In practical experience compulsory health insurance has never resulted in any relative reduction in appropriations for direct poor relief.

In Germany "expenditures for the poor have increased almost everywhere, both as regards the number of those who are supported and as regards the degree of support which is given individual cases." (Zahn, quoted by Friedensburg, in "The Practical Results of Workingmen's Insurance in Germany," p. 58; and cf. "Facts and Fallacies of Compulsory Health Insurance," by F. L. Hoffman, p. 68.)

As to Great Britain: "It is significant that we have not been able to ascertain that any diminution whatever has yet been noticed in the number of those resorting to the Poor Law." (The New Statesman, March 14, 1914, Supplement.)

The part truth in this statement is that, although compulsory health insurance increases the demand for poor relief, yet it does provide relief for some proportion of those who, in sickness, would otherwise depend upon out and out poor relief. But that proportion is not large.

"Our investigations in Chicago show* that a large percentage of the cases of poverty caused or accompanied by sickness would not be avoided by compulsory health insurance of the kind that has been proposed. They show, also, that it would not prevent as much as a fourth of the cases of dependency upon charitable agencies for material relief." (Report of the Illinois Health Commission, p. 165.)

*Public city planning and home building "together with the enactment of many kinds of social insurance * * * so completely changed the condition of the workers that (before the present war broke out) in many European countries poverty was being rapidly diminished, and in one country at least it has practically disappeared."*

(Thomas A. M. Kane, "Catholic Charities Review," September, 1917, p. 208.)

That European paradise wherein "poverty has practically disappeared" is merely a figment of the author's imagination, there being nothing real in Europe even approximately corresponding to it. As

Harold Begbie, of the *London Chronicle*, wrote, while on a visit to America, referring to comparative conditions in Europe and America: "There is nothing here, absolutely nothing, to compare with the most shocking and ubiquitous poverty of Europe."

If Germany be the country meant, the error is colossal. In Germany the working people* worked longer and for less wages than in any other of the great industrial countries (see Gerard, cited, *supra*, p. 10.) The number of women and particularly of married women forced to earn their livelihood was inordinately high and was increasing inordinately. (Villard, "Workmen's Accident Insurance in Germany," pp. 7-8.) And overcrowding in tenements, and particularly in rear and unimproved tenements, was excessive and rapidly increasing in industrial centers. (Cf. Tucker, "Compulsory Health Insurance," p. 6; also "Report of American Federation of Labor Representatives at Congress of International Federation of Trades Unions, Zurich Switzerland, September, 1913," by G. W. Perkins, President Cigarmakers' International Union.)

"Compulsory insurance would reduce the public expense for insane asylums, prisons and reformatories."

(Warren H. Pillsbury, at Commonwealth Club of San Francisco.)

This is a pure assumption without a particle of evidence to support it.

Notoriously insanity has increased inordinately in Germany while compulsory health insurance has been in effect. And in Great Britain it is a bitter grievance of the "Approved Societies" that the benefits for diseases due to vices are draining their funds, unchecked by the panel doctors; (see Report of Departmental Committee on Sickness Benefit Claims, 1914).

Against Mr. Pillsbury's "guess" deserves to be cited the opinion of an actual observer of the operations of compulsory health insurance in Germany, Dr. Ochsner, that such insurance would encourage drug taking, immorality and vice." ("Further Objections to Compulsory Health Insurance," p. 7.)

"It was the result of the study of an English Royal Commission of Health Insurance in other parts of Europe that led Lloyd George to put this system in operation in England in 1911."

(Senator Davenport, in the New York Senate, April 10, 1919.)

There was no Royal Commission or Departmental Committee to investigate the value of National Health Insurance, nor any public report or opinion from the medical authorities or organizations. The only thing in the nature of an investigation was a flying trip by Lloyd George personally to Germany. The National Insurance Act was indirectly the outcome of the Report of a Royal Commission on the Poor Laws; but such report did not recommend National Insurance nor anything like it. (See "Health and the State," by William A. Brend, Ch. VII.)

"Today universal workmen's health insurance is established in not fewer than ten of the leading continental countries" (of Europe).

(John B. Andrews, Bulletin 212, U. S. Bureau of Labor Statistics, p. 550. Cf. map fronting title page, "Brief for Health Insurance.")

This is a gross exaggeration.

Only three European sickness insurance laws (those of Germany, Great Britain and Norway) are even approximately universal as to "wage-workers." They all exclude many "workmen," and the Norwegian law many "wage-workers."

The Dutch law comes next; but it applies only to low-paid wage-workers and leaves out all casual labor and domestic servants.

In Luxemburg 37,500 wage earners are compulsorily insured out of a population of 260,000 (1910).

The Austrian insurance comes next, covering about 3,340,000 out of about 10,000,000 wage earners and a total population of 27,800,000 ("Die Sozialversicherungs in Europa; Beitrag des Reichversicherungsamts, January, 1913").

Under the Hungarian law, in 1909, about 900,000 persons were insured out of a population of 21,000,000 (id.).

Under the Roumanian law, in 1911, about 140,000 persons were supposed to be insured out of a notoriously impoverished population of about 7,000,000 (id.).

Under the Russian law, just before the outbreak of the war, about 1,394,000 persons were insured in European Russia (Finland, where insurance is voluntary, excluded) and the Caucasus, out of a population of about 145,000,000. (*London Times* Russian Supplement, July 27, 1914.)

In Serbia, though a sickness insurance law was enacted in 1910, it can hardly be said to be "established," since there is no record of its ever having been put into actual effect.

This is a complete list of the European countries—continental and non-continental—in which compulsory health insurance prevails. There are 10 altogether, and in 7 of them, the insurance, so far from being universal, provides protection for only minorities—and in some cases only insignificant minorities—of the working people.

A word must be said about the deceptiveness of the map above referred to. That is a map of Europe on which the compulsory insurance countries are marked in red, and in the text (p. 138) it is stated in heavy type that: "All the laws cover practically all low-paid wage-workers." With all Russia (Finland wrongly included) marked red, the map looks "all red," conveying the grossly false impression that "practically all the low-paid wage-workers" in far the greater part of the territory of Europe are protected by compulsory sickness insurance. The reality, as above shown, is far different. What makes the map all the more deceptive is that in Denmark, in 1914 30 per cent of the population were

voluntarily insured against sickness, as against 12.9 per cent in Austria (1910), 4.3 per cent in Hungary (1909), 2 per cent in Roumania (1911), and about 1 per cent in Russia (1914), compulsorily insured.

"This system [that of the Davenport Bill] is used all over Europe."

(Senator Davenport, N. Y. Senate, April 10, 1919.)

This sweeping assertion implies a world of untruth.

Compulsory health insurance is not used at all in Denmark, Spain, Portugal or Greece, not to mention Bulgaria and Turkey—the obligation in Denmark imposed upon employers of insuring against sickness such seasonal alien laborers as they import, hardly belonging in the domain of social insurance.

Compulsory sickness insurance is not used at all in Sweden, Belgium or outside of several Cantons in Switzerland. And in France it is applied only to seamen, miners, and railroad employees, and in Italy to railroad employees and maternity cases in some industries.

Then there are many different systems of compulsory sickness insurance, all of which differ radically from "this" Davenport system in vital features!—

Unlike the Davenport system, the insured have only a very limited or no choice of the doctor under the German, Austrian, Hungarian and Russian systems.

Unlike the Davenport system, the medical benefits are administered by distinct public authorities and not by the "sick funds" under the British system.

Unlike the Davenport system, no medical benefit is provided under the Dutch system, or under the British system in Ireland.

Unlike the Davenport system, every insured workman has the right to choose his "sick fund" under the British, Norwegian, and Dutch systems.

Unlike the Davenport system, a doctor called on *must* serve, at the charges fixed by the Government, under the Norwegian system.

Unlike the Davenport system, "invalidity insurance" is combined with "sickness insurance" under the British system.

Unlike the Davenport system, contributions and benefits are generally "flat," without variation for differences in wages, under the British system.

Unlike the Davenport system, illnesses due to pre-existing infirmities and chronic invalids are or may be excluded under the Austrian and Norwegian systems.

Unlike the Davenport system, casual laborers or short-time employments are excluded under the majority of the other systems.

Unlike the Davenport system, persons earning to exceed a very low rate of wages are exempted under the majority of the other systems.

And so on as to every other feature of the Davenport system.

The fact is that there is no health insurance closely resembling the Davenport system in use anywhere.

The Standard Bill "combines the features pronounced best by the practical experience of Europe."

(John B. Andrews, Bulletin 212, U. S. Bureau of Labor Statistics, p. 552.)

Everyone is entitled to express his own individual conclusions from European experience. But this pronouncement implies some such misleading notion as that the Standard Bill follows the latest European precedents (framed in the light of experience) or that it follows a well-defined majority opinion as to the lessons of experience.

Neither of these notions is true. The partisans of compulsory insurance are hopelessly divided in opinions as to methods and means. For instance, at the latest International Social Insurance Conference the majority opinion seems to have been that the insured should have a choice of insurance carriers—in other words that some insurance should be required, but that all existing insurance institutions should be preserved and that each insured person should be free to choose his insurance to suit his individual needs and preferences (cf. Bulletin des Assurances Sociales (Report of Brussels Conference; also March, 1913, p. 31); "Verbindung staatlicher Zwangsversicherung und freier Privatversicherung," address by Dr. Bielefeldt, at International Congress on Social Insurance, Dresden, 1911; "Der Reichsversicherungszwang * * * und die Thesen des Herrn Dr. Zacher," by Robert Piloty, 1910; "Soziale Versicherung der Selbstständigen," by Robert Piloty, 1912.) And this feature—free choice of insurance carrier—was adopted in the Norwegian law (1909), the British law (1911), the recent Dutch law (1913), and the projects for a compulsory health insurance law being pushed in Belgium at the outbreak of the war. Only the Russian law (1912) adopted a uniform bureaucratic system of insurance carriers like that to be found in the Standard Bill.

As to other features, the extension of the law (the classes subjected to compulsion), the question of whether or not there should be a medical benefit, and, if such a benefit, how it should be provided and controlled, the distribution of the cost, the question whether contributions and benefits should be level or proportionate to earnings or contributions respectively, etc., etc., both the sickness insurance laws and the opinions of the partisans of compulsion are hopelessly at variance.

Moreover, the German law, for example, contains special provisions regulating the insurance for agricultural laborers, domestic servants, casual employments, itinerant trades and home-working industries, whereas the British law leaves the modifications requisite to adapt the insurance to these special occupations to the discretion of the Insurance Commission. In application to these special occupations the British insurance has notoriously broken down (cf. *The New Statesman*, cited and quoted *supra*);

whereas experience of the operations of the special provisions of the German law in question (which took effect January 1, 1914,) has been shut off from our observation by the war. Consequently it cannot truly be said that the feature of the Standard Bill leaving the special regulations for the occupations above mentioned (or such of them as are covered) to the discretion of a political commission has been "pronounced best by the practical experience of Europe."

"Health insurance on a compulsory basis is in force in Great Britain, Norway and Switzerland, and is equally successful in all those countries."

(M. M. Dawson, Hearing on Nicoll Bill, March 26, 1918.)

Health insurance is in force in Great Britain, but the evidence as to its success, is, to say the least, doubtful and conflicting (see, *supra*, pp. 5-9).

Sickness insurance in Norway went into effect July 1, 1911. No critical study of its operation has yet been published—in the English language, at least—and real evidence of either its success or failure is entirely lacking.

Health insurance in Switzerland, except in one or two Cantons, is voluntary. Since the Swiss system did not take effect until well into 1914, when normal operations were promptly disturbed by the war, there is as yet no evidence accumulated to show that it is successful or otherwise, either in its voluntary or compulsory form.

All these laws are experiments and in a very early experimental stage; and it is absurd to claim the results in advance.

At this time "the health insurance law of Sweden has just been enacted and has gone into effect in the middle of this war."

(Miles M. Dawson, Hearing on Nicoll Bill, March 26, 1918.)

"Right in the midst of the war one of the countries of Europe adopted its health insurance law."

(Miles M. Dawson, Hearing on Davenport Bill, March 19, 1919.)

Either Mr. Dawson has been incorrectly reported or these are serious errors.

The Swedish "sickness insurance" law (both the Nicoll and Davenport Bills were for "sickness insurance") is *voluntary*. The Swedish old age and invalidity insurance law, which is compulsory, was enacted some years before the war, and took effect January 1, 1914.

No European country "adopted" a health insurance law "in the midst of the war," unless the Russian Bolsheviks have gone through the form of doing so. The Dutch sickness and invalidity insurance laws, which were being put into effect just before the outbreak of the war, were adopted in 1913. And the Norwegian Sickness Insurance Law of 1916 was merely a codification of laws of 1909 and 1911, with only a few material changes.

"Health insurance has existed in England since

1911, and it was found sufficiently beneficial to warrant extending its scope."

(Senator Davenport, in N. Y. Senate, April 10, 1919.)

The scope of the British health insurance has never been extended. What probably misled Senator Davenport was the recommendation in the "Report of the Insurance Acts Committee, British Medical Association, 1917," that the medical benefits actually provided—which are very inadequate and much below what is promised in the law—should be made more adequate. But even this recommendation, which involves no extension in the scope of the insurance, has never been carried out.

"You couldn't get either capital or labor in the realm of England to give up this health insurance."

(Senator Davenport, in N. Y. Senate, April 10, 1919.)

This is a rhetorical assertion based upon pure assumptions.

The English health insurance differs radically from "this health insurance"—i. e., the system of health insurance proposed in the Davenport Bill—in the particular, among others, that it is paid for about 4/11ths by the state and 3/11ths by employers, leaving the insured employees to pay only 4/11ths. Because they are getting for 4d. per week insurance that costs 11d., the majority of the British working people probably would be reluctant to give up the health insurance. Instead they seem to be demanding that the medical benefits originally promised them for 4d. per week be provided them for 4d.—which benefits are now only about half provided and to provide which in full would probably double the state's contribution, so that the working people would get for 4d. insurance costing 15d. But there seems to be at least a minority of thoughtful English working people who wish the whole scheme discarded, or at least that it had never been adopted (see quotation from W. A. Appleton, *supra*, p. 6).

As to English employers, the known attitude of many of them towards the insurance is simply one of patient endurance of a political imposition; and it is a "safe bet" that the majority of them would be glad to give it up.

"One of the first things put out at the Peace Conference was a request that among the earliest things undertaken would be the extension of social insurance throughout the States of the Allies."

(M. M. Dawson, Hearing on Davenport Bill, March 19, 1919.)

This statement is artful. The speaker omitted to specify that the proposal referred to was made by Germany, with obviously selfish motives, and rejected by the Allies, without thanks.

Compulsory health insurance is approved of by "every scientific student of the subject in the world" and also by "all the civilized nations of the world except the United States."

(Chester H. Rowell, Commonwealth Club of San

Francisco, 1917, quoted by Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 43; and cf. Thos. M. Gafney, Hearing on Nicoll Bill, March 26, 1918.)

This statement is absurd.

Compulsory sickness insurance has not been generally in favor in France, Italy, Denmark, Sweden, Belgium, Spain, Portugal, Canada, New Zealand, Australia, or South Africa, nor in any country in South America.

And there is a host of scientific students of the subject opposed to compulsory health insurance, among whom may be mentioned Maurice Bellom and Colson, in France; Hilairc Belloc and Brend, in Great Britain; Bernhard and the large number of medical men he cites, in Germany; and Taussig, Hadley and Hoffman in the United States.

(For an explanation of the why and wherefore of the louder noise made by the European proponents of compulsory insurance, see "Criticism of a Tentative Draft of an Act for Health Insurance," by P. Tecumseh Sherman, pp. 10-11.)

"Most of the ammunition in opposition to compulsory health insurance has been furnished by the commercial insurance interests."

This is a malicious untruth, designed to excite the prejudice of the ignorant.

Most of "such" ammunition is derived from impartial official publications, from the "Bulletin des Assurances Sociales," from the Report of the Committee on Preliminary Foreign Inquiry of The National Civic Federation, from disinterested writers such as Brend, Price Collier, Bellom, etc., and from journals such as The New Statesman.

"In the governmental and co-operative systems of Great Britain and Germany all workers in all industries and all occupations are insured and receive the benefits."

(Public Health Bulletin No. 76, by Warren and Sydenstricker, p. 54.)

As to Germany, this is an assumption without evidence; as to Great Britain, it is a wanton misrepresentation.

In Germany the sickness insurance law was not extended to cover domestic servants, agricultural labor and the itinerant trades until 1911, and then only to take effect in 1914. The extended provisions were just being put into effect when the war broke out and prevented thereafter both normal operations and foreign observation of what operations there were. It still remains to be found out how far these new classes are *actually* insured and how far they *actually* obtain the promised benefits. The authors of Public Health Bulletin No. 76, however, are not content to wait to find out the truth. They simply assume that to be true which they want to be true.

In Great Britain there are some *millions* of "workers" not covered by the National Health Insurance (see Report of the Committee on Preliminary Foreign Inquiry, The National Civic Federation, pp. 3-4). And large numbers of the insured—"deposit contrib-

utors" and casual laborers notoriously—are not getting the benefits; ("The New Statesman," March 14, 1914; December 1, 1917).

*"Compulsory insurance * * * eliminates by its universality dangers of adverse legislation."*

(John B. Andrews, Bulletin 212, U. S. Bureau of Labor Statistics, p. 252, Cf. "Sixth Report, Committee on Health, N. Y. State Federation of Labor," 1919.)

Compulsory insurance may reduce but does *not* eliminate adverse selection.

Even where, as in the German "local funds," adverse selection is not permitted by the law, the funds are protected in practice against bad risks and chronic invalids "by the unwillingness of employers to engage them"; ("Social Insurance in Germany," by W. Harbutt Dawson, p. 32).

But many of the health insurance laws recognize the injustice of compelling the healthy, moral and industrious working people to pay for the sicknesses of the chronic invalids, the vicious and the habitual malingerers, and permit adverse selection in some form or other. Thus the British Act (§30 (2)) permits Approved Societies to admit or reject any applicant except on account of age—rejected applicants being relegated to the position of "deposit contributors," each of whom must pay his own way. The Norwegian law permits the insurance carriers to reject chronic invalids altogether. And the Austrian law excludes their chronic illnesses from the coverage of the insurance. And nearly all the laws permit expulsions.

"Under compulsory insurance there would be no lapses."

(Prof. Irving Fisher, quoted by Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 46.)

There would be worse than "lapses"—there would be "forfeitures."

In Great Britain it is a subject of complaint that the Approved Societies expel members, thereby forfeiting their insurance, without due cause; ("The New Statesman," March 14, 1914, Supplement, p. 20).

And under the Standard Bill an insured person, upon quitting the state or ceasing to be employed, would forfeit his insurance of the funeral benefit.

"Experience has shown that there is a much higher degree of efficiency in management, and at much less cost, in governmental than in private health insurance plans."

(Public Health Bulletin No. 76, by Warren and Sydenstricker, p. 67.)

This is a reckless assertion, the falsity of which is exposed by the fact that there are now in America thousands of soldiers and sailors who are surrendering invalidity and life insurance on satisfactory terms (under Act. No. 90, U. S. Public Acts of 1917), because of grossly inefficient and wholly unsatisfactory "governmental management."

It is true that many governmental insurance schemes make claims for low cost—far below anything at-

tained by private enterprise. But the deception in those claims was long ago exposed by Dr. Manes, a German social insurance authority, in the *Zeitschrift für Versicherungs Wissenschaft*, for May, 1912:

"The opinion is nowadays commonly heard expressed that private insurance invariably conducts its business more expensively than social insurance. This, however, is true only in a relative way—for just as there are individual private insurance enterprises whose administration costs are higher than those of many publicly organized institutions, so also it is possible to adduce statistical material to demonstrate the opposite conditions. It is almost without exception forgotten * * * to take into account the high, concealed costs of social insurance. Those only are looked upon as administration expenses of social insurance which appear in the budgets of the insurance organizations and not at all those large sums which as a result of social insurance either burden the financial operations and accounts of other state departments, or by reason of the relief given from postal charges and other dues and like privileges represent a loss of receipts to those departments."

It is by ignoring its high *concealed costs* that governmental insurance makes a deceptive showing of economy; whereas private insurance, under governmental regulations, has to report truly *all* its costs. With the same system of accounting applied alike to both kinds of insurance, there would be a very different comparison, as will be shown later (*infra*, pp. 32-34).

And that governmental management is not efficient in providing good medical benefits promptly, in checking impositions on the funds, etc., etc., is abundantly shown by the evidence elsewhere in this paper; (see *supra*, pp. 6-8, and, *infra*, pp. 38-40).

That the British health insurance is not deemed efficient and of low cost by the intelligent and well-informed is indicated by experience with the "voluntary contributors." Some 2,000,000 adult working people—the self-employed and the highly paid—have not been brought under the Health Insurance by compulsion, but have been invited and urged to come in and offered for 7d. per week insurance now costing 11d. It was estimated in advance that 800,000 of them would accept. But in fact, according to the figures given out by the insurance administration, only a little over 20,000 have come in, the remainder apparently concluding that the insurance is not worth the cost.

"The cost of voluntary insurance is high because of the expense of solicitation, of administration and of profits, whereas a compulsory plan can insure all automatically and enables the business to be conducted at a lower cost of administration."

(Report of the Ohio Health and Old Age Insurance Commission, p. 159.)

To any one who has observed the tremendous, complex and extravagant governmental machinery of administration of health insurance abroad it is simply preposterous to describe the operation of that insurance as "automatic"; (see Sidney Webb, quoted *infra*, p. 34, and Price Collier, quoted *supra*, p. 10).

Voluntary insurance in mutual funds involves no expense for "profits." The only item of expense in such voluntary insurance not common to compulsory insurance is that of "solicitation." And the saving of solicitation expenses by compulsion is offset by the

expense of the administrative machinery required for compulsion.

"The figures of premiums received and losses paid during various periods show that American 'industrial' or health insurance companies retain more than half the premiums received for expenses and profits."

(Report of Social Insurance Commission of California, 1919, p. 121. Majority Report of the Massachusetts Special Commission on Social Insurance, 1917, quoted in Report of Massachusetts Special Commission on Social Insurance, 1918, pp. 29-30. Report of New Jersey Commission on Old Age, Insurance and Pensions, 1917, p. 13.)

This is a misuse of figures that reflects seriously upon either the fairness or the competency of the authors of these reports. For the difference between premiums received and losses paid during a given period does *not* measure the expenses and profits for that period. There must first be deducted from the "premiums received" the amount thereof received for insurance extending beyond the period covered and there must be added to the "losses paid" the amount of losses suffered during such period and yet to be paid (generally set aside in special reserves). This particular method of misrepresentation was thoroughly exposed in the Report of the Second Massachusetts Commission, 1918 (pp. 29-31).

"The expense of administering the German sickness insurance is only about five per cent of the receipts."

("Brief for Health Insurance," The American Labor Legislation Review, June 1916, p. 211. M. M. Dawson, Hearing on Nicoll Bill, March 21, 1918.)

This contention is based upon a falsification originating in and propagated by the Imperial German Insurance office.

The truth is that it is only a *small part* of the expenses of administering the German sickness insurance—i. e., *that part which is paid out of the contributions*—which average about 5% of the contributions (8% in the "local funds" and 1% in the "establishment funds"); whereas the major part of the expenses of administration—the part borne by the employers and the state is *concealed*; (see comment by Dr. Manes, *supra*, p. 30). There is, therefore, no means of knowing whether the German insurance is economically administered or not, since the total expense of administration is an absolutely unknown percentage of contributions or of benefits. But judging from the multitude of the onerous duties imposed upon employers and from the magnitude of the bureaucracy employed in the work of social insurance by the state (cf. quotation from Price Collier, *supra*, p. 10), the probabilities are that the German sickness insurance is very thoroughly and *expensively* administered. The expense ratio may be *guessed* variously, but since the exposure above explained there is no evidence left to support a contention that it is any nearer 5% than 50%. (See "Criticism of a Tentative Draft of an Act for Health Insurance," by P. Tecumseh Sherman, pp. 28-31.)

But even all the items of expense above enumerated

do not cover all the "economic waste." The doctors employed by the sick funds have two lines of duties, first to determine the right to sick pay and to make reports for the purposes of claim control and statistics, and, secondly, to treat diseases. Over half of the time of the doctors is occupied by the first of these lines of duties, and consequently half their charges should be allocated to "administrative expense" rather than to "benefits." This item of economic waste, however, is common to all insured medical benefits.

"Local administration in the Leipzig sick fund costs less than ten per cent of the total expenditure, whereas in this country the dollar-a-month sick insurance, as operated by stock companies, is at an average administrative cost of about sixty per cent."

(J. B. Andrews, Bulletin 212, U. S. Bureau of Labor Statistics, p. 552.)

This is simply a variation of the preceding misstatement. The percentages given are probably correct as to those administration expenses in the Leipzig funds paid out of the sick funds. But in addition, as has just been explained (*supra*, p. 32), there is the heavy cost of administration borne by employers and the state. That the total is less than 60% of expenditures may be guessed but there is no evidence to prove it.

In this connection it should be noted that it is the Leipzig sick fund (or more correctly the Leipzig federation of sick funds) which is always cited as typical of the German sick funds (cf. "Brief for Health Insurance," American Labor Legislation Review, June, 1916, p. 123) and held up for comparison with the worst specimens of sickness insurance that can be found in America. This is like selecting a top apple from one barrel of apples and comparing it with the rottenest apple to be found in another barrel. The Leipzig funds are the best of their type in Germany, and away above the average. And even they have their seamy side, which the American proponents of compulsory insurance try to hide; (see "Failure of German Compulsory Health Insurance—a War Revelation," by F. L. Hoffman, p. 12).

"In Great Britain the administrative cost of the compulsory health insurance law is but fourteen per cent of the receipts, whereas the societies which collect from house to house small premiums for burial insurance spend thirty-seven per cent of their total income for management."

("Brief for Health Insurance," American Labor Legislation Review, June, 1916, p. 240.)

This is another deceptive comparison. The 37% expense, above cited, includes all the cost of collection, whereas the 14% expense excludes the greater part of it. The total administrative cost of the badly skimmed administration of the British Health Insurance (badly skimmed by political regulation so far as the Approved Societies are concerned, whereas the Government's part in administration is rather extravagant though inefficient) is about 14% of contributions, plus the cost of collection borne by the

employers. That this ignored item of cost is heavy is indicated by Sidney Webb's opinion. He says:

"Regarded as a means of raising revenue, compulsory insurance of all the wage-earning population, with its elaborate paraphernalia of weekly deductions, its array of cards and stamps, its gigantic membership catalogue, its inevitable machinery of identification and protection against fraud, involving not only a vast and perpetual trouble for each employer, but also the appointment of an extraordinarily expensive civil service staff, is, compared with all other taxes, almost ludicrously expensive to all concerned." And he goes on to estimate that the true aggregate cost of collection would amount to between 20 per cent and 25 per cent of the revenue raised. ("The Prevention of Destitution," by Sidney Webb, p. 170.)

At least half of this cost of collection should be added to 14% to get the true expense ratio in Great Britain.

"The benefits under the Standard Bill would cost not more than four per cent of the payrolls."

(John B. Andrews, Bulletin 212, U. S. Bureau of Labor Statistics, p. 552; cf. "Standards of Health Insurance," by I. M. Rubinow.)

"The net cost of health insurance [the system considered by the first California Commission] would, in its entirety, be three per cent of wages."

(I. M. Rubinow, Bulletin 212, U. S. Bureau of Labor Statistics, p. 564.)

"The benefits under the Nicoll Bill would cost four per cent of wages up to \$12 per week."

(M. M. Dawson, Hearing on Nicoll Bill, March 26, 1918.)

"The benefits under the amended Davenport Bill would cost three per cent of the payrolls."

(Senator Davenport, in N. Y. Senate, April 10, 1919.)

These are undoubtedly honest actuarial guesses; but it is wrong to present them as estimates of any real value, for the reason that anything like the exact cost of the benefits under any of these bills is, under existing conditions, hopelessly unascertainable. German sickness insurance experience furnishes no reasonable basis for close estimates, because the benefits, the conditions to benefits, the systems of claim control and the entire social conditions are radically different; (cf. Hoffman, "Facts and Fallacies of Compulsory Health Insurance," p. 60). A similar actuarial attempt to estimate in advance the cost of a health insurance measure, is shown by experience in Great Britain to have been a gross and disastrous underestimate; for, even after cutting the promised medical benefits in half, their cost still largely exceeds the estimate. And the British experience affords no basis for an estimate of cost, for the reason that the cost of the National Health Insurance, on the one hand, covers both sickness and invalidity benefits, and, on the other hand, provides only a grossly inadequate medical service.

One thing only experience makes certain, namely, that to keep the rate of contributions within the bounds of endurance, the conditions to the right to lay off and draw sick pay must be so severe, and the medical, surgical, hospital and nursing service and

the supplies and appliances provided must be so limited as to cause much popular disappointment.

"A private establishment near Albany has long provided its employees higher sick benefits than those under the Davenport Bill for three per cent of payroll. Therefore the benefits under the Davenport Bill could be provided by the insurance system therein proposed at three per cent of payrolls."

(Senator Davenport, in N. Y. Senate, April 10, 1919.)

This is a nonsequitur.

The cost of experience of a single private establishment, with a select force, and without political interference as to choice and payment of doctors, determination of rights to benefits, etc., is no criterion at all of the average cost under a general political scheme such as proposed in the Davenport Bill.

Compulsory Health Insurance "will cost pretty nearly two-thirds as much as it does now."

(Chester H. Rowell, at Commonwealth Club of San Francisco; quoted Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 45.) This is a pure assumption.

On the contrary it is very probable that in Great Britain people can get for 7d. a week private health insurance that is just as good as the political insurance costing 11d. per week (see *supra*, p. 31), and that a similar increase in the cost of sickness insurance without any equivalent increase in benefits would be the result of compulsion here.

"Under the Nicoll Bill the appropriation for the state's share in administration 'would possibly be \$100,000, perhaps some more.'"

(James M. Lynch, Hearing on the Nicoll Bill, March 26, 1918.)

This estimate is pure guesswork, without regard for experience. All experience indicates strongly that the state's share of the annual expense of administration would be, not "\$100,000 and possibly some more," but \$1,000,000 and more.

The German Government's expense in connection with sickness insurance is unknown. But the British Government's experience gives some basis for calculation.

The British Government's appropriations for administration expense of the National Health Insurance for the year ending March 31, 1915 (Report of Committee on Preliminary Foreign Inquiry, National Civic Federation, pp. 15-16) amounted to £927,000, or about \$4,450,000. The British Act applied to about 14,000,000 wage earners, whereas the Nicoll Bill would have applied to over 3,000,000 employees, with some medical benefits also for their dependents. Therefore New York State's probable expense of administration under the Nicoll Bill would be at least \$950,000 a year, plus whatever additional expense might be entailed by the benefits for dependents.

Estimating the cost in another way:

It costs over \$400,000 for public administration under the accident compensation law of New York.

The proponents of compulsory health insurance tell us that, as a factor in producing dependency, sickness is to accidents as $6\frac{1}{2}$ to 1 ("Brief for Health Insurance," p. 179). Consequently health insurance would have to deal with about $6\frac{1}{2}$ times as many claims as accident insurance, and presumptively would require about $6\frac{1}{2}$ times as much administration. Consequently, to administer the health insurance as thoroughly as New York has been administering compensation insurance, would probably cost the state \$2,600,000 a year.

It is suspicious that Mr. Lynch occupies a position that would give him a hand in distributing political jobs that compulsory health insurance would create. Rightly has an observer of German experience protested: "I am afraid" compulsory health insurance "would be a dangerous weapon in the hands of our spoils politicians through the state machinery that would have to be established to run health insurance." ("Further Objections to Compulsory Health Insurance," by Edward H. Ochsner, M.D., p. 11.)

"The cash and other benefits provided by health insurance are not bestowed or given; they are paid for in accordance with actuarial practice by those who are responsible for the conditions that occasion the need for benefits. They are not 'relief' any more than compensation for accidents is 'relief.' Especially is this true in a governmental system of health insurance where employers, employees and public maintain and administer the funds."

(Public Health Bulletin No. 76, by Warren and Sydenstricker, p. 64.)

This is pure demagogism.

If the insurance were maintained entirely by the insured contributors (employers perhaps included) and the contributions were scaled in proportion to the risks, etc., "in accordance with actuarial practice," then nothing might be "bestowed or given." But where the taxpayers' money is used for the benefit of the insured or where the infirm, the sickly and the shirkers are insured at less than cost at the expense of the healthy and industrious, then a donation essentially indistinguishable from poor relief is "bestowed or given." All the European sickness insurance laws (including the voluntary insurance laws of France, Denmark and Sweden) are and are generally recognized to be measures of poor relief—or charity; (cf. quotations from Brend and Price Collier, *supra*, pp. 7 and 10). And it is a common point of criticism that "nothing is gained by disguising that charity under a false name"; (Colson, *infra*, p. 40).

It is significant in this connection that within the last few months a Ministry of Health has been established for England and Wales, to which the supreme authority in all matters of National Health Insurance has been transferred, in combination with charge of the administration of certain of the Poor Laws; (Monthly Labor Review, August, 1919, p. 227). Thereby health insurance is classed and co-ordinated with poor relief.

Moreover, under the British National Health Insurance, there never has been any medical benefit in

Ireland, the needed medical service being supplied by the poor law.

Malingering would be negligible in a governmental or compulsory system of health insurance.

(James M. Lynch, Hearing on Davenport Bill, March 19, 1919. Public Health Bulletin No. 76, by Warren and Sydenstricker, p. 63. Report of Ohio Health and Old Age Insurance Commission, p. 171.)

That assumption is directly contrary to experience.

In Germany, simulation, malingering and pension hysteria, formerly unknown to medical men, have, since the introduction of social insurance, become a regular epidemic. Sickness insurance, in particular, "is frequently made use of as a way of insurance against unemployment." ("Undesirable Results of German Social Legislation," by Ludwig Bernhard, Professor at the University of Berlin, pp. 61-63; "The Future of Social Policy in Germany," by same, pp. 6-7; "Further Objections to Compulsory Health Insurance," by Dr. Edward H. Ochsner, p. 9.)

"The hospitals [in Germany] are full of malingerers." "I can say that there is a class that fills the hospitals in Germany, the lowest and most degraded type of beggar and malingerer there is." (Dr. Harry R. Gaylord, Hearing on Davenport Bill, March 19, 1919.)

"In the Leipzig Communal Sick Fund the evil of malingering reached such alarming proportions some years ago that special investigators or home visitors were employed for the purpose of ascertaining the true condition of the patients. During 1914, when the affairs of the fund were but slightly affected by the war, out of 10,447 patients in receipt of pecuniary support on account of alleged incapacity, 5,542, or 53 per cent, were easily ascertained to be fully qualified to return to work, and 571, or 5.5 per cent, additional were found to be in a condition in which they were capable of returning to work and were ordered to do so within the current week for which support was being paid." ("More Facts and Fallacies of Compulsory Health Insurance," by F. L. Hoffman, p. 17.)

"The report of the Communal Sick Fund for the city of Koenigsberg, in East Prussia, for the year 1917, reveals in full detail the scandalous practices of physicians issuing certificates to patients never seen and filling out prescriptions or meeting requests for medical or other supplies obtainable through drug stores without any obvious medical necessity thereof whatever. * * * In lamentable contrast, the more serious cases did not receive proper attention, and even cases of insipient lung diseases were treated in a manner bordering perilously near to malpractice. * * * Under such circumstances it is not a matter of surprise that out of 2,730 special cases of sickness investigated, 782, or 28.6 per cent, were found entirely fit to return to work. Further investigations disclosed an additional 684, or 25.1 per cent, able to return to work, leaving only 1,264, or 46.3 per cent, as really entitled to sick pay and medical treatment." ("Failure of German Compulsory Health Insurance.—A War Revelation," by F. L. Hoffman, pp. 17-19.)

Referring to the effects of the British health insurance act in general, Sir John Collie remarks that on the basis of available statistics it is self evident "that thousands of employees who should be at work successfully claim 'sick pay.'" (Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 51.)

"In one large Society, in six months, 12,375 members in possession of certificates of incapacity were requested to attend for examination by the Society's permanent medical referees, as a result of which 1,875 declared off the funds voluntarily; 1,795 failed to attend for examination; and 3,186 out of the 9,209 examined were declared 'capable of

work' by the referees." ("Health and the State," by Wm. A. Brend, Chap. VII.)

According to a report made to the County of Ayrshire Insurance Committee, based upon investigations made by medical referees, the effect of National Health Insurance in that community has been that "of the persons who were examined over 39 per cent were found fit to work, and if those who resumed work, rather than go before the medical referee be included, the number who were found fit was increased to over 47 per cent. In other words, nearly one-half were found fit for work." (National Health Insurance Gazette, March 9, 1918; Hoffman, "More Facts and Fallacies of Compulsory Health Insurance," p. 40.)

From observations of experience such as just referred to the eminent French sociologist, Colson, deduces that bureaucratic health insurance is impracticable in a democratic state. However, he concludes: "Insurance against the wage loss and expenses entailed by sickness, which does not provide high benefits may be efficaciously administered by small mutuals, whose members know each other, readily watch each other and exclude all malingerers. It is true that this form, which is incompatible with compulsion, excludes those unfortunates whose health permits only intermittent labor; but when sickness is an habitual condition and not a risk, insurance can no longer be applied to it. Charity alone can provide for wants resulting therefrom; and no advantage is gained by disguising that charity under a false name." ("Organisme Economique et Désordre Sociale," by C. Colson, Member of the Institute, p. 162.)

"Most employers opposed the enactment of compensation laws, and their opposition to health insurance is equally unmeritorious."

(F. Spencer Baldwin, N. Y. Tribune, Sunday, January 26, 1919.)

"But most employers did not oppose the enactment of compensation laws. In New York, for instance, employers generally favored the original Wainwright-Phillips bills. All that employers opposed was the movement in favor of state insurance monopolies. This aspersion upon employers is not warranted nor in accord with facts as shown by the records of the Workmen's Compensation Department of The National Civic Federation, where employers and representatives of labor, beginning in 1908, worked together, always favoring some equitable form of workmen's compensation holding the industry liable."—The National Civic Federation Review, Feb. 15, 1919.

"Under the Standard Bill the duties of the Commission would be largely judicial and supervisory, the administrative functions being chiefly carried on by the various local or trade funds."

(John B. Andrews, Bulletin 212, U. S. Bureau of Labor Statistics, p. 554.)

"Under the Mills Bill the administration is localized in each district."

(J. P. Chamberlain, Hearing on Mills Bill, March 7, 1917.)

"Under the Davenport Bill the insurance funds would be run entirely by the workers and employers themselves."

(Senator Davenport, N. Y. Senate, April 10, 1919.)

The foregoing are misstatements hiding an ugly feature of the health insurance measures in this country. Under each of these bills the members of a fund would, it is true, bear the burden of the work of local administration, but largely as servants of a State Commission and subject to its direction and control. They would have nothing to say about the selection of members. A large proportion of their administrative acts would be subject to the discretionary approval of the Commission. And their remaining powers would be subject to such limitations as provided by the constitutions of their respective funds, *and such constitutions would contain such limitations as the Commission might choose to require.* And, as if that were not enough, under the Mills and Davenport Bills, any fund not administered with sufficient subserviency to suit the Commission, could, at any time, in the Commission's discretion, be broken up, and its membership distributed among other funds. (See Davenport Bill [Print No. 1811] §§ 51, 52, 54, 56; Mills Bill [Print No. 236, 1916], §§ 32, 34, 36, 46; Standard Bill, §§ 26, 28, 37.)

In other words these bills did *not* provide for "home rule" or "democratic management," but, on the contrary, for extreme bureaucratic feudalism—extreme because even the German statutes give the "sick funds" some definite rights as against the state bureaucracy, whereas these bills did not. It is true that under any one of these measures the Commission *might* allow the insurance funds some fair degree of self-management. But the chance is slight, for as Grant Hamilton (member of Legislative Committee, American Federation of Labor), referring to the Standard Bill, observed (Bulletin No. 212, U. S. Bureau of Labor Statistics, p. 567); "The proposed measures would build up a bureaucracy that would have some degree of control or authority over all the workers of the state. It is in the nature of government that when even a slight degree of power is delegated, the natural tendency is to increase that power and authority."

*"I understand and I think it is part of the tactics of the opposition to prevent—I know it, in fact—a careful study of this important measure" * * * "The medical men, * * *, as their official reports show, are opposed to having any study of this subject."*

(John B. Andrews, Hearing on Mills Bill, March 26, 1918.)

This accusation is exactly the reverse of the truth. The proponents of this measure seek to jam it through without opportunity for the public to study and learn the truth as to the experience cited in its favor. On the other hand, its opponents have and are studying the subject. The National Civic Federation had a Committee of Inquiry abroad in the summer of 1914; but its investigations were halted by the war. That Committee reported in favor of a suspense of judgment until further investigation could be made. Now

that the war is over The National Civic Federation has another Committee on Foreign Investigation studying this subject. We want the subject studied. The proponents of compulsory insurance do not.

(James M. Lynch, Feb. 6, 1918.)

Commissions in New Jersey, Massachusetts and California have reported in favor of Compulsory Health Insurance.

This statement is correct, but—

Whereas in Massachusetts the first Commission reported in favor of compulsory health insurance, a second Commission appointed to study further into the subject has reported adversely, and several attempts to incorporate provisions for compulsory insurance at the recent Constitutional convention failed.

Whereas two Commissions in California have reported in favor of compulsory health insurance, a proposition to amend the State Constitution to permit such insurance has been defeated by the people, by a vote of 358,324 to 133,858.

Other State Commissions reporting explicitly in favor of or against the immediate adoption of compulsory health insurance, to date, are:

Favorable: New Jersey and Ohio.

Unfavorable: Connecticut, Wisconsin and Illinois.

A Commission in Pennsylvania has also reported, recommending no immediate legislation but that the problem be further studied and investigated.

Committee on Social or Health Insurance of the Illinois State Medical Society.

ED. H. OCHSNER,	JOSEPH FAIRHALL,
GEORGE APFELBACH,	WM. F. BURRES,
C. A. HERCULES,	J. R. BALLINGER,
H. F. BRUNING,	E. W. FIEGENBAUM,
W. D. CHAPMAN,	CLEAVES BENNETT

Public Health

FORMER ILLINOISAN APPOINTED

Dr. E. B. Godfrey, formerly acting epidemiologist of the Illinois State Department of Public Health, has been appointed acting epidemiologist for the Department of Public Health for the State of New York. During the war Dr. Godfrey visited France as epidemiologist for a Mission, under the direction of Homer Folks, delegated to study medical social conditions.

RESIGNATION OF PAUL HANSEN

Paul Hansen, who has served at the head of Sanitary Engineering of the State Department of Public Health for a number of years,—first as sanitary engineer for the State Board of Health and more recently as the Chief of the Division of Sanitary Engineering of the State Department of Public Health,—has tendered his resignation to take effect on May first, at which time he will

enter upon the private practice of his profession in Chicago.

Mr. Hansen has been succeeded by Harry F. Ferguson who has been connected with the Division of Sanitary Engineering for a number of years. Mr. Ferguson is a graduate of the Massachusetts Institute of Technology and prior to coming to the State Department of Public Health he served as Assistant Engineer in State Water Survey, University of Illinois, Urbana, Illinois.

STANDARDIZATION OF TUBERCULOSIS SANATORIA

As a first step in the rating of public and private tuberculosis sanatoria in Illinois, there has been issued by the Division of Tuberculosis of the State Department of Public Health a complete directory of these institutions, giving in addition to the ordinary information considerable data in regard to nursing service and medical supervision.

HEALTH PROMOTION WEEK

Health Promotion Week, the observance of which has been designated by a joint resolution of the Illinois senate and house of representatives for the period from May 9-15, will be the occasion for a large number of community health demonstrations in Illinois this year. The centennial birthday of Florence Nightingale which will be observed by nursing organizations throughout the world, falls on May 12th, the Wednesday of Health Promotion Week in Illinois. On this account it has been suggested that the public health and community nurses of the State make Wednesday of Health Promotion Week a day of special demonstration, and that civic and social organizations shall on that day hold meetings for the purpose of urging the importance of nursing service in the protection of the health of the people.

LABORATORY SERVICE OF THE STATE DEPARTMENT OF PUBLIC HEALTH

The Division of Diagnostic Laboratories of the State Department of Public Health has issued an outline showing the service rendered without cost for health officers and other public officials, and for physicians resident of Illinois. The schedule includes the following items:

SERIOLOGY:

1. Complement fixation test in syphilis (Wassermann test).
2. Complement fixation test in gonorrhea.
3. Complement fixation test in tuberculosis.
4. Agglutination test in typhoid fever;
 - (a) Microscopic (Widal test).
 - (b) Macroscopic.
5. Pneumococcus typing.

BACTERIOLOGY:

1. Sputum for tubercle bacilli.
2. Pus smears for gonococci.
3. Smears for Vincent's angina.
4. Swabs for diphtheria bacillus.

5. Feces for typhoid bacillus.
6. Feces for dysentery bacillus.
7. Urine for typhoid bacillus.
8. Blood for culture.
9. Pus for culture (autogenous vaccine).
10. Sputum for culture.
11. Spinal fluid for culture.
12. Miscellaneous materials for culture, as milk, food and exudates.

PATHOLOGY:

1. Dogs' heads for rabbies.
2. Blood smears for differential count.
3. Urine for routine analysis.
4. Spinal fluid for cell count and globulin test.
5. Feces examination for:
 - (a) blood.
 - (b) gall stones.
 - (c) bile.

HISTOLOGY:

1. Tissue for section and microscopical examination.
(Facilities are not available for this work as a matter of routine at the present time, but preparations are being made so that it can be done in the near future.)

CHEMISTRY:

1. Milk for fat test (Babcock test).
2. Urine for chemical analysis.
3. Spinal fluid for Lange's colloidal gold test.
4. Gastric contents for acidity.

PARASITOLOGY:

1. Blood smears for malaria parasites.
2. Feces for parasites:
 - (a) Hookworm.
 - (b) Tapeworm.
3. Smears for *Treponema pallidum*.

ENTOMOLOGY: (As related to public health only.)

1. Lice.
2. Fleas.
3. Ticks.
4. Mosquitoes.
5. Flies.

EPIDEMIOLOGY:

The Division has a field laboratory which can be sent on short notice to localities not provided with laboratory facilities for the study and control of epidemics of diphtheria, meningitis and the like.

The foregoing procedures are carried out only at the Central Laboratory at Springfield, the five branch laboratories located at Urbana, Moline, Chicago, Galesburg and Mt. Vernon, confining themselves exclusively to the diagnosis of diphtheria. Mailing cases containing sterile containers can be obtained at any of the 350 agencies for

the Department of Public Health located throughout the State.

Correspondence

SHEPARDSON'S POWER CURTAILED

By OPINION OF ATTORNEY GENERAL INTERPRETING NEW NURSES ACT

(Copy)

March 22, 1920.

File 10089.

NURSES: Act of 1919;

Approval of Schools

for Nursing; Civil

Administration Code.

Hon. Francis W. Shepardson,

Director, Department of Registration

and Education,

Springfield, Illinois.

Dear Sir:

Your letter of March 8 transmits to me a protest addressed to the Director of the Department of Registration and Education by Dr. M. L. Harris, on behalf of the Illinois Hospital Association, the Chicago Medical Society, the Illinois Medical Society and the Commissioner of Health of the City of Chicago, setting forth objections to the administration of the Illinois Nursing Act by said department. This protest, dated February 24, 1920, consists of a preliminary interpretation of said act by the protestants and a specific statement of the grounds of protest, which are hereinafter set out. You also furnish me with a copy of Bulletin No. 4 of your department, containing general rules and regulations in relation to the administration of said act, including rules adopted for accrediting schools for nurses.

You request my opinion as to the powers of said department under the provisions of the Illinois Nursing Act in connection with the Civil Administrative Code. In endeavoring to comply with your request the following opinion is confined to the powers of the department directly involved in said specific grounds of protest. In the examination of this question, and in what is hereinafter said, I do not wish to be understood as expressing or intimating any opinion on the wisdom of the legislation involved. My duty in the premises is solely that of ascertaining the meaning of the statute as it is written under

settled rules of statutory interpretation. The said specific grounds of protest are as follows:

1. Because the said Department, without authority of law, has assumed to establish rules to regulate hospitals and training schools for nurses conducted in connection therewith.

Without waiving said Point 1, protest is made specifically against the following acts of the said Department.

2. Because the said Department has, in Bulletin No. 4, in paragraph 3, upon page 5, asserted and advertised the fact that it is within its powers under the law to adopt rules providing for and establishing a uniform and reasonable standard of maintenance, instruction and training to be observed by all schools for nurses which are to be deemed reputable and in good standing and to determine the reputability and good standing of such schools.

There is no such provision in the present Nursing Act of the State of Illinois, and these protestants request that said bulletin be withdrawn and they insist that the said Department shall cease to represent that any such law is in effect or to undertake to exercise any powers thereunder.

3. Because the said Department has adopted and is continuing the practice of addressing all communications relative to hospitals or training schools connected therewith, to the superintendents of the training schools, respectively, instead of to the officers or directors of such hospitals.

4. Because the rules for accrediting schools for nurses contain requirements as to daily average of patients in hospitals with which such schools are connected, and in regard to equipment and as to the faculties, superintendents, supervisors and staff, which are not within the power of the said Department to require.

5. Because the Department has made requirements for admission to such schools for nurses which are not within the power of the Department.

6. Because the Department has established or attempted to establish a curriculum for training schools. Objection is made to this—

(a) Because it is not within the power of the Department to require that such curriculum shall be observed by training schools.

(b) Because the curriculum prescribed nullifies the provisions of the present Illinois Nursing Act providing for a two years' course, it being impossible to give such curriculum within the limits of two years.

These protestants ask that in the particulars above referred to the Department of Registration and Education shall take such steps as may be necessary to abolish the rules, regulations and requirements above complained of.

Section 1 of the Illinois Nursing Act, passed in 1919, is as follows:

It is unlawful for any person to practice, or attempt

to practice, nursing as a registered nurse without a certificate of registration as a registered nurse, issued by the Department of Registration and Education, pursuant to the provisions of an act entitled "An Act in relation to the civil administration of the state government, and to repeal certain acts therein named," approved March 7, 1917; in force July 1, 1917.

It is therefore necessary to consider certain of the provisions of the Civil Administrative Code. Section 60 of the said Code provides that

The Department of Registration and Education shall, wherever the several laws regulating professions, trades and occupations which are devolved upon the Department of Administration so require, exercise, in its name, but subject to the provisions of this act, the following powers:

These "following powers" are seven in number, described in as many paragraphs. The only powers which are disputed by the protest aforesaid are those described in paragraphs 4 and 5 of said sections, as follows:

4. Adopt rules providing for and establishing a uniform and reasonable standard of maintenance, instruction and training to be observed by all schools for nurses which are to be deemed reputable and in good standing and to determine the reputability and good standing of such schools for nurses by reference to compliance with such rules and regulations.

5. Establish a standard of preliminary education deemed requisite to admission to a school, college or university, and to require specific proof of the enforcement of such standard by schools, colleges and universities.

The exercise of the said fourth power was required by section 3 of the act of 1913, providing for the registration of nurses, which was in force at the time the Civil Administrative Code was enacted. That act was specifically repealed by section 14 of the Illinois Nursing Act, approved June 19, 1919. Therefore the question arises whether the present act contains such requirement. The Nursing Act of 1919 does make certain requirements of said department, in reference to holding examinations of applications for certificates of registration as nurses, issuing certificates of registration, renewal and revocation thereof. It also invests the department with the duty of approving, on inspection, schools for nursing. The department is also invested with the power and duty of approving high schools and secondary schools in relation to the preliminary educational requirements of applicants for registration.

Nowhere in the act of 1919 is the department

required or authorized to make or adopt rules establishing a standard by which schools for nurses or schools of preliminary education are to be approved or disapproved. Section 10 of this act provides that said department "may adopt reasonable rules and regulations relating to the enforcement of the provisions of this act." One of such provisions is that no one is eligible to registration as a nurse who has not "completed a course of at least twenty-four months of study in a school of nursing inspected and approved" by the said department. Does the approval by inspection of schools for nurses authorize the department to prescribe the number and qualifications of the teachers, superintendents, supervisors or staff of such school or the daily average of patients in the hospital with which "such schools are connected, or the living and working conditions of its nurses and students? I think not. All that the enforcement of this provision requires is that the efficiency of the school shall be determined, not by reference to compliance with certain conditions composing a standard, but by inspection of the work of the school to ascertain the character and amount of the instruction and training afforded by the school. It is the intent of this provision that the school be approved or disapproved by reference to its efficiency and not by reference to certain requirements as to the organization, equipment and educational qualifications or degrees of the professors, assistants or other employes constituting the teaching or training force of the school. Section 3 of the act of 1913 did require that the Board of Nurse Examiners should adopt rules establishing a standard of maintenance, instruction and training for approved or accredited schools for nurses and for inspecting such schools, and also that eligibility to be listed as approved or accredited schools should be determined by reference to such standard. The present act omits these requirements and that omission may fairly be regarded as significant of the legislative intent to dispense with such conditions in determining whether schools for nurses shall be entitled to approval by the said department.

Laws regulating trades, professions and occupations are an exercise of the police power of the state. Such laws are invalid unless reasonably necessary for the promotion of the health, comfort, safety and welfare of society. The liberty and the property rights of the citizens can

be interfered with or taken away only to the extent that these elements of the well-being of society require. It is by no means clear that such well-being renders it reasonably necessary to determine the efficiency of schools for nurses in the way or manner provided by section 3 of the act of 1913; nor is it clear that the true intent of that section authorizes the construction of a standard of approval from the elements of organization, management and operation of such schools, including hospitals with which they are connected, as are combined in the standard promulgated in said Bulletin No. 4. Whatever the court might hold on this question, the General Assembly, after six years' experience with the requirements of said section 3, omitted them from the act of 1919. It may be that the General Assembly considered that the practical operation of the Nurses Act of 1913, and particularly section 3 thereof, placed such schools and their related hospitals too much under the control of the profession of registered nurses and at least afforded the opportunity to develop and manage such schools in the interests of that profession rather than in the interests of the public, which such rules are intended to promote. On that question I express no opinion. The differences between the act of 1913 and that of 1919 clearly indicate a marked change of policy in this respect in the matter of accrediting or approving schools for nurses, in that the duty and power in this respect is vested squarely and solely in the said department as the responsible and impartial agency created by the state and representing the interests of the people as a whole, instead of dividing that duty and power with a committee of registered nurses. This does not prevent the said department from availing itself of the advice and assistance of members of that highly important and honorable profession to the extent that the department may deem requisite to the performance of its duties. Neither does it prevent the department from making use of such assistance from physicians and surgeons or from laymen whose advice and assistance the department may deem valuable in the administration of the Nursing act.

Instead of the provisions of section 3 of the act of 1913, the General Assembly has required merely that such schools be inspected and approved by the department aforesaid. This difference may express the belief of the legislative powers that

the former act encouraged, or at least permitted, a greater interference by the state with such schools and hospitals than the welfare of the public requires, and that such schools as could merit approval by inspection were just as likely to furnish efficient nurses to meet the demands of the medical profession and the needs of the public, as those whose efficiency was determined by comparison with a standard constructed and adopted under the provisions of the act of 1913. Whether such was the belief of the General Assembly is a matter of conjecture, but when the difference of the two acts is considered I think it plain from the language of the act of 1919 that the legislative intent was to relieve nursing schools from the necessity of complying with the requirements of such fixed standard as the practical operation of section 3 in the former act imposed, and to entitle such school to approval if, on a fair inspection by the said department, it was found on the whole efficient in preparing its students to practice the profession of a registered nurse.

It may be contended that the power to approve necessarily involves a standard or rule by which the approval is to be governed. The standard is the efficiency of the school in affording to its students adequate preparation to enter upon the practice of their profession, not the compliance by the schools with a set of requirements as to organization, teaching or training forces, living conditions of students and daily average of patients in the hospital. The thing to be determined in approving the school is its efficiency, and that is to be determined by inspection of the school. The department is to make the inspection and the department is the judge of the efficiency of the school. If, in the judgment of the department after such inspection, the school is efficient, that is all that the law requires to entitle the school to approval. But that much the law does certainly require. The right of the school to approval depends upon its efficiency as determined by the test of a careful, thorough and intelligent inspection by impartial and competent officers or agents of the department aforesaid. It is evident that such a test may be more severe than that prescribed by the act of 1913.

I find nothing in the act of 1919 which authorizes the said department to prescribe the educational requirements for admission to a school for nursing. Clause C, section 2 of this act re-

quires that the applicant for registration must have completed a one year's course of training in a high school or secondary school approved by the said department, or an equivalent course of study as determined by examination conducted by said department. The statute makes this a requirement for registration, not a requirement for admission to a school for nurses. Ordinarily and perhaps for practical necessity such course of study would be completed before entering upon the course of study of a school for nurses, but the statute does not so require.

The reason assigned for an educational requirement for admission to a professional or technical school is that such educational qualifications are necessary to enable its students to intelligently study the subjects taught in any such schools. If a school for nurses admits students not educationally prepared to pursue the course of study there required, it is reasonably clear that such a school cannot do efficient work. So, while the statute does not impose an educational requirement for admission to such schools, the nature of the work itself does accomplish the same thing. If a school does not require the necessary preliminary qualifications, the inefficiency of the school will be shown by inspection and the school will not deserve approval.

It is therefore my opinion that the department aforesaid has no power to exercise, in relation to schools for nurses and hospitals connected therewith, the powers described in paragraphs 4 and 5 of section 60 of the Civil Administrative Code, and that the special grounds of protest of the Illinois Hospital Association are well founded in law except as to paragraph 3 thereof. The law does not prescribe the manner of addressing communications of schools for nursing. If such communications are intended to affect the proprietors of such schools with notice, they should be addressed to such persons or to their proper agents. Otherwise I think the department is free to determine its own practice in this respect.

In the foregoing opinion I have considered merely questions of law. If the act of 1919 as herein interpreted works inconvenience in matters pertaining to the registration of nurses, the remedy is not with the Attorney General but rests with the General Assembly.

Very truly yours,

ATTORNEY GENERAL.

TWO MILLION ENDOWMENT TO MAKE NEW YORK THE MEDICAL CENTER OF THE WORLD

The New York Association for Medical Education, organized last August to develop New York's opportunity to become the medical center of the world, has indorsed the campaign of Post Graduate Medical School and Hospital for a \$2,000,000 Endowment Fund as "worthy of support because it is an important step toward providing a very necessary training for graduate physicians."

The board of directors, on which every medical school in the city is represented, has given official approval to the endowment campaign.

"America must meet the enormous demands of the physician for training that will keep him abreast of the progress of medical science," said Dr. Wendell C. Phillips, president of the association yesterday. "Post Graduate is the oldest institution for post graduate medical training in the nation. It is an excellent position to do a great work. But if this work is to be done it must have funds.

"Berlin and Vienna have fallen as centers of medical education, but even if they had not, New York's opportunity would be huge for nowhere else is to be found the wealth of clinical material that this city holds.

"Medical schools and hospitals in New York—and conspicuously Post Graduate—are bending every nerve to provide the training rendered abroad. If they succeed, the 3,000 to 5,000 physicians who went abroad in the years before the war will come to New York. It will mean a saving of time and money for those trips abroad consumed time and were expensive.

"Institutions to provide this sort of training must be provided at home. We have the instructors, for American physicians and surgeons rank high in the medical world. We must teach our young physicians what they should know and we must give the older ones a chance to learn the new things that medical science is constantly developing."

The endowment fund now has reached \$545,000, according to an announcement yesterday by Dr. James F. McKernon. The campaign workers hope to reach the million mark the coming week.

A HOME FOR OLD AND DISABLED PHYSICIANS.

The family physician, like the family horse, having carried the family burdens, the one on his mind and in his heart, the other on his back or by his muscle, through the best years of his life, is not always made the object of solicitude and care when the days of burden-bearing are nearing an end. This was true in the "good old days," when the "village doctor," and the country "saddlebags" played so important a part in the life of the community; it is none the less true in these days

of organized medical care and public health service, of "scientific philanthropy" and welfare societies.

It has long been the accepted belief that physicians, as a class, are not specially adept at money making and money saving. Even the high-priced specialists of the larger cities, with few exceptions, have given the public little cause, by virtue of their large holdings or keen investments, to change this estimate of the business acumen of the medical profession. And yet, strange as it may seem, little thought has been given the how and where of the doctor's livelihood in the latter years of his life, when he can no longer respond to the urgent and strenuous demands of the sick room or operating amphitheater. It is possible, therefore, to look about and to see or to learn of many a physician who is eking out a threadbare existence after having served his part of the community long and well.

Now, however, there is promise of better things for physicians who, through age or infirmity, are no longer capable of taking their accustomed place in the welfare of the community. Dr. Wolff Freudenthal of New York City has conceived the idea of a home for just such doctors. A committee has been formed to raise funds, a charter has been granted by the New York Legislature, and the nation-wide movement is fairly underway, Dr. Robert T. Morris, of 616 Madison Avenue, is president of the corporation, and Dr. Albert G. Weed, of 152 West 57th Street, is treasurer. It is to be hoped that doctors who are still active and the public at large will respond to this worthy appeal. The plans as outlined make provision for the wives of physicians. No mention is made of women physicians, but it is assumed that they are included in this praiseworthy undertaking.—*Medical Record*.

Society Proceedings

ADAMS COUNTY

The February meeting was very well attended, considering "flu" conditions, etc. Two new members were admitted—Drs. Knox and Swanberg. At the close of the business session Dr. Harold Swanberg, roentgenologist, gave a talk, illustrated by numerous lantern slides, on "The Anatomy and Pathology of the Cervical Spine." The slides were illustrative of cases which occurred during the recent war. We were very grateful to Dr. Swanberg for giving us the advantage of his experience, and trust he will favor us again in the near future. In addition to the lantern slides, plates were exhibited.

Before the meeting adjourned the secretary brought up for discussion the amount of the dues for this year. By a motion, which was duly seconded and carried, the dues will remain the same as last year—six dollars.

March Meeting

Held at Elks' clubrooms, Monday, March 8, 1920. Meeting called to order by President Stevenson.

The following matters were discussed:

1. Quincy's Public Health Association. Society contributed \$5 toward the same.
2. Standardization of hospitals. Secretary was instructed to communicate with superintendents of local hospitals, urging them to conform to minimum requirements for standardization and informing them that Adams County Medical Society had gone on record as favoring said requirements.
3. The society appropriated \$25 for membership in Chamber of Commerce.
4. Scientific program. Paper, "Leukocytosis from Clinical Viewpoints," Dr. Ralph McReynolds—a thoroughly scientific paper, requiring time, careful consideration, experience and training.

April Meeting

Was held at the Chamber of Commerce on Monday, April 12, at 8:30 P.M.

After business transactions were over we had a Symposium on Empyema:

1. Etology—Dr. Charles E. Ericson.
2. Pathology—Dr. J. A. Koch.
3. Symptoms and Diagnosis—Dr. W. W. Williams.
4. Roentgen Findings—Dr. Harold Swanberg.
5. Treatment—Dr. Kirk Shawgo.

After the subject had been thoroughly discussed we adjourned.

Elizabeth B. Ball, Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, April 7, 1920

1. Headaches, with Special Reference to Those of Nasal Origin.....Robert Sonnenschein
DiscussionSidney Kuh
2. The Plastics of the Biliary System.....
.....Weller VanHook
3. Some Proven Methods in the Operative Treatment of Fractures. Illustrated by Moving Pictures and Lantern Slides from Original WorkPaul B. Magnuson
General Discussion.

Joint Meeting Chicago Medical and Chicago Urological Societies, April 14, 1920

1. Urinary Calculi.....Irvin S. Koll
2. Vasotomy—A Lantern Slide Demonstration of Technique. Robt. H. Herbst and Alvin Thompson
3. Streptococcus Infection in Urology.....
.....Louis E. Schmidt
4. Unilateral Nephritis
.....Gustav Kolischer and Joseph Eisenstaedt

Regular Meeting, April 21, 1920

1. A General Survey of Prostatics Before and After Prostatectomy.....Ed. Wm. White
2. The Present Status of Gastro-Intestinal Neurosis.....J. C. Friedman
General Discussion.
3. Andrews Operation for Inguinal Hernia with Report of Cases.....Axel Werelius
Discussion.....
E. Wyllys Andrews, A. J. Ochsner, D. Eisendrath

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of Oct. 13, 1919—Continued.

In looking up the literature he found that some 29 cases had been reported in the last 75 or 100 years. Several foreign confreres had reported cases, notably von Graefe, Mueller, and other well known ophthalmologists. One case was reported in which 13 cilia were removed. This seemed improbable. Just why five eyelashes got in the anterior chamber in the author's case seemed strange enough, considering that the piece of wire probably was less than one-eighth of an inch in diameter, and the end of the wire made the punctured wound and carried the five eyelashes through the small opening into the anterior chamber. During the first two weeks blood in the anterior chamber prevented the making of a diagnosis, but as the blood began to absorb the dark lines were seen. A month afterwards he felt certain, with the aid of a magnifying glass, that the black lines were eyelashes. The eye was irritable, with considerable lachrymation and photophobia, and sympathetic disturbance being feared the patient was urged to submit to an operation. However, the patient refused operation pending the settlement of a controversy with an insurance company and the brewing company employing him, as to liability. In Indiana, employees receive compensation in cases of injury for only thirty days. The thirty day period had passed and the insurance company denied further responsibility and there the matter hung for some weeks. Finally, they decided to pay the man for the time he was off, an operation was performed, and the five eyelashes were removed one by one. A foreign body lying on the anterior capsule of the lens will interfere more or less with the nutrition of the lens, and in consequence there was cloudiness as a result of the irritation. This cloudiness apparently has not increased, as the patient's vision remains about the same.

Concerning the cases of iridodialysis, Dr. Bulson said that the corneal incision was made with a small, acute, angled keratome. In the first two cases the incision was made with the ordinary cataract knife, but in those cases the incision was too large. In the first case too large an incision was made because it was necessary to withdraw the bridge of iris in order to fix it. The stitch was carried through the conjunctiva, through the iris, and out through the conjunctiva, to anchor the iris, but as might be expected that drew the iris out and distorted the pupil greatly. It did pull the bridge of iris out away from the visual center, and in that respect the operation was satisfactory.

In the second case the incision was made with the ordinary cataract knife, and again he thought the incision was too large. The iris slipped back. After the eye had quieted down another attempt was made to correct the iridodialysis and at that time the incision was made smaller and the bridge of iris fixed in the wound where presumably it remained, though the patient was soon lost to view.

In the last case a very small opening was made with a sharp pointed keratome. The object should be to make the opening just as small as can be made in order to pass the closed iris forceps through and get hold of the bridge of iris. The torn edge was pulled down slowly up into the wound, and the knuckle of iris was quite sufficient to block the wound where it remained. The pupil was distorted slightly, but as previous

to the operation the iris was lying over the visual center and interfering with the vision as well as disturbing the cosmetic effect, but the result of the operation was satisfactory to the patient as well as to the speaker. The author said entanglement of the iris was usually feared in a wound and yet it happened not infrequently and many times with no resulting harm as every operator of experience could testify.

The operation as performed is mentioned in some of the textbooks, as being a risky procedure. He was merely reporting this with the idea of eliciting some discussion. In these cases there was no had result, and in the case Dr. Wood reported, he did not consider it a very risky procedure.

Up to the present time, outside of a decided discoloration of the iris in that portion which had been detached from its attachment, there had been no marked evidence of any atrophy. The patient's eye was now free from irritation and she had fairly good vision.

UNILATERAL PROPTOSIS.

Dr. Michael Goldenburg reported the following two cases:

Case 1. The first case that he was desirous of calling attention to was for the purpose not only of presenting an interesting lesion, but in the hope that he would be favored with a critical discussion, both from the standpoint of the possible etiology and the manner of handling the condition.

The young man, who was good enough to come here this evening, is a private patient. He first came under the speaker's observation September 15, 1919, with the following history:

He is 26 years of age, married 3 years, has one child. He has been wearing glasses for the past six years. Vision had always been about the same in both eyes. However, there has always been a slight difference in the size of his eyes as evidenced by the photographs of 3 and 6 years of age. But he is sure that his vision in the right eye was good up to three years ago, when it gradually started to fail.

His personal and family history is very good.

Upon examination the right eye was found to be markedly proptosed. Eyelids, conjunctiva, cornea and anterior chamber negative. Pupillary reaction to light and accommodation good. Tension normal; vision 15/200 with difficulty. Left eye negative in all respects and vision 15/15.

(To be continued.)

MADISON COUNTY

The Madison County Medical Society met in the Masonic Temple at Collinsville on Friday, March 5, 1920, Dr. F. O. Johnson presiding.

Dr. J. L. Wiggins of East St. Louis was introduced and read a very instructive paper on "Service Hernia." He endorsed the opinion that hernia was a disease and not an accident. He greatly favored the growing contention that there is such a thing as traumatic hernia and that all hernias were either congenital or that the afflicted patient had a congenital tendency to hernia. He asserted that no amount of force could produce a hernia. A very free discussion followed, which was highly interesting.

Dr. D. W. Young of East St. Louis followed, with an unusual address on the "Utilization of X-Ray in Diagnosis." He emphasized that the value of this means of diagnosis depended upon the correct method of making the plate, and also upon the ability to read the plate correctly. He laid great stress upon the fact of being well grounded in anatomy as an absolute necessity in properly interpreting X-Ray findings.

A vote of thanks was tendered to both speakers.

Much routine business was attended to, including the appointment of a committee on resolutions, which reported at the meeting of April 2 as follows:

*Resolutions Adopted by the Madison County
Medical Society, April 2, 1920*

WHEREAS, Dr. H. R. Lemen met with a sudden and violent death; and

WHEREAS, Dr. H. R. Lemen was a patriot and a soldier of three wars, serving both as a private and as a commissioned officer, and was a distinguished physician and surgeon, a kind, loving husband, father and friend, and inspired the love and friendship of all with whom he was associated; and

WHEREAS, As a medical colleague and member of the Madison County Medical Society he was held in the highest esteem by this society, and we feel his untimely death a great and irreparable loss to the medical profession, his family and friends; therefore be it

Resolved, That the Madison County Medical Society tenders to his widow, children, relatives and friends its warmest sympathy and condolence in this their greatest bereavement, the loss of his love, support and friendship; and be it further

Resolved, That it is our prayer that a kind Providence will soften their grief and grant to his soul eternal rest and peace; and be it further

Resolved, That a copy of these resolutions be spread upon our records, a copy sent to his family and published in the MADISON COUNTY DOCTOR, THE ILLINOIS MEDICAL JOURNAL, *The Journal A. M. A.* and in the Alton daily papers.

W. H. C. Smith,

G. Taphorn,

W. W. Halliburton,
Committee.

ST. CLAIR COUNTY

The St. Clair County Medical Society met in regular session in Chamber of Commerce rooms, Murphy Building, East St. Louis, April 1, 1920, at 8 P. M., with thirty-two members and five guests present.

A communication was read by the secretary from Dr. J. W. VanDerslice, president of the Illinois State Medical Society, calling attention of the members to Proposal "300," which is before the Constitutional Convention. After a brief discussion of this communication by the members, Dr. C. W. Lillie presented the following resolution, which was unanimously adopted:

WHEREAS, The Constitutional Convention is now in session; and

WHEREAS, The interests of the public demand that all persons engaged in the practice of the healing art should be qualified equally with all others engaged in like service; therefore be it

Resolved, That the St. Clair County Medical Society heartily approves the Proposal "300" and urges its adoption as a part of the new Constitution of the State of Illinois, thus assuring to its citizens the full measure of protection from ignorant pretenders and other unscrupulous quacks who now prey upon the afflicted, whose general knowledge will not protect them from sharks.

Dr. W. F. Coughlin was presented as the essayist for the evening. Dr. Coughlin presented a series of lantern slides depicting injuries of the face and cleft palate. The presentation was highly entertaining and instructive. In some of the slides the destruction of the tissues of the face was apparently so extensive that they seemed irreparable, but subsequent slides showed the injury repaired, with only minor cicatrices remaining, attesting the skill and mechanical ingenuity of Dr. Coughlin.

No further business appearing, the society adjourned.

Walter Wilhelmj, Secretary.

Book Notices

We publish full lists of books received, but we feel under no obligation to review them all; however, so far as space permits, we will review those in which we think our readers are likely to be interested.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS.

By John C. DaCosta, Jr., M.D., Ex-Associate Professor of Medicine, Jefferson Medical College, Philadelphia. Fourth Edition. Thoroughly revised. Octavo of 602 pages with 225 original illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth \$4.75 net.

This is a recognized standard text book. In this work the old text has been revised and brought up to date. Much new matter has been added. The chapters deal chiefly with gas edema, gas pneumonia, influenza pneumonia, hilum tuberculosis, the functional capacity of the heart, aviators' heart and sino-auricular heart block. The clinical relation and physical signs of cecum mobile are dealt with in detail.

THE TREATMENT OF SYPHILIS. By H. Sheridan Baker, A. M., M. D. 160 pages. New York. MacMillan & Company, 1920. Price \$2.50.

This work is intended for the general practitioner who has not heretofore employed the intravenous method of injection or those whose acquaintance therewith is limited. To be successful in the treat-

ment of syphilis, the physician must be the master of intravenous medications, for resultful treatment of lues is dependent to a very great extent on the administration of arsphenamine or neoarsphensmine. The author goes into great detail as to the description and technique of the operation. In this respect the work fills a long-felt want for it is in this respect that so many physicians are lacking as to the wheres and hows of the intravenous medication. The book is worth the money asked for it.

THE DISEASES OF INFANTS AND CHILDREN. By J. P. Crozer Griffith, M. D., Ph. D., Professor of Pediatrics in the University of Pennsylvania. Two octavo volumes totaling 1,542 pages with 436 illustrations, including 20 plates in colors. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, \$16.00 net.

This is a very exhaustive work in two volumes, Volume I dealing with general subjects, hygiene, feeding and diet, new born, infectious diseases, general and nutritional diseases, digestive system; Volume II dealing with diseases of the respiratory, circulatory, genito-urinary, nervous, muscle, bone, joints, blood, spleen, lymph, ductless glands, and internal secretions, skin, eye and ear. The work is complete in every detail and falls only a little short of being an encyclopedia on the subject of diseases of infants and children. The author has included in this work such subjects in surgery and special branches with the recognition of which physicians treating the disease of children should be more or less familiar. This work should be in the library of every physician who makes any pretense to treat the diseases of infancy and childhood.

ORTHOPEDIC AND RECONSTRUCTION SURGERY, INDUSTRIAL AND CIVILIAN. By Fred H. Albee, M. D., F. A., C. S., Professor and Director of Department of Orthopedic Surgery at the New York Post-Graduate Medical School and at the University of Vermont. Octavo volume of 1138 pages with 804 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, \$11.00 net.

This work aims to assemble and bring to the attention of the profession in a practical manner those surgical procedures which have contributed so largely to the reclamation of the cripple and to the rehabilitation of the physically incompetent, and in addition it includes subject matter usually classified as orthopedic surgery and the consideration of a large number of conditions originating either in the various present day industrial organizations or in the great war. It takes up not only the orthopedics of the child, but of the adult as well. Besides including all the surgery of the limbs, joints, tendons, muscles, ligaments and fascia, it contains a great mass of organized information relative to bone grafting, its advantages, use, technic end-results, etc. This work will prove very valuable to general and orthopedic

surgeons and those engaged in industrial and accident work.

Personals

Dr. Alfred de Roulet announces the removal of his office to 7 West Madison Street, Chicago.

Dr. G. H. Withers announces a change of offices to 30 N. Michigan Avenue, Chicago. Practice limited to children.

Dr. Elmer S. Allen, Arcola, who was operated on several weeks ago at the Union Hospital, Terre Haute, for the removal of gallstones, has recovered and returned home.

Dr. Ira R. Willets was exonerated by a coroner's jury, April 14, in the case of Blanche Warner who died April 1 at the German Deaconess Hospital from a supposed illegal operation.

A coroner's jury on April 16 recommended the release of Dr. William James Mitchell, held in custody in connection with the death of Mrs. Marie C. Hopkins. Dr. Mitchell was considered entirely free from blame.

Dr. Maurice L. Goodkind has received, through the Adjutant-General of the army, a citation certificate of the Order of the University Palms of the grade officer of the Academy—silver palm, awarded by the French government Nov. 18, 1919, for services as chief of the medical service of Base Hospital No. 53, Langres sur Marne, France.

Dr. Gustavus M. Blech, who as lieutenant-colonel, M. C., U. S. Army, commanded Base Hospital No. 208, near Bordeaux, the largest base hospital in France, having a capacity of more than 7,000 patients, has received through the Adjutant-General of the Army, a citation certificate of the Order of University Palms, with the grade of Officer de l'Instruction Publique—gold palms, awarded to him by the French government for services rendered to French officers and the government at the University of Bordeaux.

News Notes

—The Radium Institute and Clinic of Quincy, Ills., has been organized with Dr. H. P. Beirne, councilor of the 6th district as medical director.

—The offices of Drs. A. B. Scott, Paul B. Kionka and L. A. Lighthart, Melrose Park, were destroyed in the tornado which struck that village, March 28.

—St. Joseph's Hospital of Elgin elected officers for the year as follows: chief of staff, Dr. G. J. Schneider; vice-chief, Dr. J. F. Bell; secretary-treasurer, Dr. Sally Howell; member of executive board, Dr. H. H. Pillinger.

—The commissioner of health of Chicago and an alleged beauty expert of the *Tribune* have under way a contest in reducing the heavy weights. The commissioner made a hit with the fat girls while the other expert will try her skill on a bunch of Falstaffs that break the scales and "lard the green earth" as they roll along. This is one race where the more "laps" they lose the more fortunate they will be. The stock arguments of health and pnhcrlitude anent reduction of the diet are strongly reenforced by current prices such as 30 cents a pound for sugar, potatoes at \$6.00 the bushel, flour at \$15.50 a barrel, etc.

—Dr. Myron E. Lane, at present a member of the staff of the Chicago Municipal Tuberculosis Hospital, has been appointed medical director and superintendent of the Jasper County Tuberculosis Sanatorium, Webb City, Mo.

—The organization of an Industrial Surgeons' Association to be affiliated with the Chicago Medical Society is contemplated. Dr. George D. J. Griffin is temporary chairman, and Dr. Horace C. Lyman, temporary secretary of the new organization.

—The thirty-ninth meeting of the Robert Koch Society for the Study of Tuberculosis was held at the City Club, April 19, at 8 o'clock, when Dr. Lawrason Brown of the Trudeau Sanatorium, Saranac Lake, N. Y., read a paper on "The Diagnosis of Intestinal Tuberculosis."

—The John Crerar Library was closed May 1. It will be reopened as soon as the new building at the corner of Michigan Boulevard and Randolph Street is ready for occupancy. At present this is expected to be by September 1.

—The state of Illinois has begun work on the addition to the Alton State Hospital, to cost \$500,000. The plans call for six cottages capable of housing 100 patients, in addition to a dining room and kitchen, and construction of two build-

ings to house tuberculosis patients, and the erection of a hospital building.

—Drs. Henry S. Bennett, Joseph D. McKelvey, Chester C. Sloan and Prudens R. Sterck, Moline, and Arthur E. Williams, Rock Island, are said to have pleaded guilty, March 25, to charges of violating the city health law by failing to report births within the required five day limit, and to have been fined \$10 and costs in the Moline police court. The fines were suspended, but the physicians were held for the costs in the case.

—At its meeting, April 1, 1920, the Illinois Department of Registration and Education revoked the licenses of Dr. George W. Alverson, formerly of Area, and Dr. Henri E. R. Altenloh of Chicago. The former is now serving a life sentence in the Joliet penitentiary and his license was revoked for gross unprofessional and dishonorable conduct. The license of Dr. Altenloh was revoked because of the use of alleged false and fraudulent statements in advertising matter by which he attempted to obtain money and practice.

—The Surgeon General of the Army, October 10, 1919, awarded to V. Mueller & Company, 1779 Ogden Ave., Chicago, a Certificate of Merit. The citation by the Surgeon General of the Army is as follows:

For especially meritorious service in devoting their plants, equipment and personnel to the manufacture of surgical instruments and appliances for the use of the United States Government during a period of acute emergency. Due largely to their patriotism and efficiency, the requirements for surgical instruments and appliances were fully met and the health and lives of the sick and wounded were thereby conserved.

—The day of the struggling young physician who worked for years on a scanty income while he built up a paying practice is past, providing national prohibition continues in force, according to Captain Hubert Howard, prohibition enforcement officer for Illinois.

Instead of sacrificing the best years of his life to the struggle to make both ends meet, the young medical school graduate will now step into an assured income ranging anywhere from \$100 to \$500 a month. This is the roseate picture painted by Captain Howard.

The present prohibition regulati physicians to 100 government pres for liquor per month. Ch

ing all the way from \$1 to \$5 for the blanks.—*Exchange.*

Marriages

SAMUEL JOHNSTON McNEILL, Chicago, to Miss Edna E. Hamilton, R.N., of Toronto, Canada, March 31.

HENRY WILLIAM ABELMANN to Miss Anabel Borg, both of Chicago, April 17.

Deaths

GEORGE SUMNER PROVIN, Blandinsville, Ill.; University of Illinois, Chicago, 1906; a Fellow, A. M. A.; aged 37; died recently from appendicitis.

JONATHAN FRANKLIN RICHARDSON, Waukegan, Ill.; Medical Department, University of Iowa, Keokuk, 1864; aged 83; for many years a practitioner of Keota, Iowa; died March 18.

ARCHIE B. ATCHISON, Winnebago, Ill.; Hahnemann Medical College, Chicago, 1899; aged 49; died in Irvington, Ala., March 9, from heart disease following influenza.

SAMUEL VINCENT ROMIG, Chicago; University of Michigan, Ann Arbor, 1872; aged 78; for many years a practitioner of Rockford and Winnebago, Ill.; died March 8.

HENRY B. BROWN, Lincoln, Ill.; St. Louis Medical College, 1876; aged 68; local surgeon for the Chicago and Alton and Illinois Central systems, and surgeon to St. Clara's Deaconess hospitals, Lincoln; died, March 18, from heart disease.

WALTER THOMAS HALL, Toulon, Ill.; Medical Department, University of Iowa, Keokuk, 1869; aged 79; once president of the Stark County Medical Society and president of the Board of Health of Toulon; died March 8.

THOMAS STANLEY CROWE, Chicago; Illinois Medical College, Chicago, 1896; aged 51; a member of the Illinois State Medical Society; once physician of Cook County; Captain, M. R. C., U. S. Army, and discharged March 29, 1919; also a pharmacist; died, April 5, from cholelithiasis.

JULIAN BEZEL BECK, Chicago; College of Physicians and Surgeons, Chicago, 1904; aged 43; a member of the Illinois State Medical Society; assistant professor of dermatology in Loyola University; died in Mount Sinai Hospital, Chicago, March 25, from cerebral hemorrhage.

EAR ADRIAN KELL, Salem, Ill.; Barnes Medical College, St. Louis, Mo., 1900; aged 48; several years assistant of the Illinois State Hospital for the Insane; died, April 12, from septic

infection of the hand received when dressing a surgical case.

WILLIAM TEEL MONTGOMERY, Chicago and Evanston, Ill.; Rush Medical College, 1871; aged 76; a veteran of the Civil War; a specialist on diseases of the eye and ear; oculist to Presbyterian Hospital, and a trustee of the Illinois State Charitable Eye and Ear Infirmary; died in Evanston, March 25.

LEONARD ST. JOHN, Chicago; McGill University, Montreal, 1872; M. R. C. S. (Eng.), 1873; a Fellow, A. M. A.; aged 67; at one time professor of clinical surgery in the Chicago College of Medicine and Surgery; for many years surgeon to St. Anthony's Hospital; one of the founders of the College of Physicians and Surgeons; died, April 2, from heart disease.

CHARLES EDWARD WHITESIDE, Moline, Ill.; College of Physicians and Surgeons, Chicago, 1894; aged 50; a member of the Illinois State Medical Society; once alderman of Moline; lieutenant and assistant surgeon, Illinois National Guard, and assigned to the Sixth Infantry during the war with Spain; died in the North Chicago Hospital, Chicago, March 20, from carcinoma of the lower jaw.

ARTHUR FRANK WILHELMY, Decatur, Ill.; Cincinnati College of Medicine and Surgery, 1896; a Fellow, A. M. A.; aged 47; major, M. R. C., U. S. Army; a member of the attending staff of St. Mary's and Macon County hospitals; a member of the Decatur Board of Health; during the war with Spain, captain Illinois National Guard; while driving in his automobile over a grade crossing, April 16, was struck by an Illinois Central train and instantly killed.

JOHN HURL MAXWELL, Newton, Ill.; Ohio Medical College, 1878; aged 85; a member and one of the founders of the Jasper County Medical Society; one of the oldest physicians and surgeons in central Illinois; entered the Civil War as hospital steward in the 38th Illinois Volunteers, was advanced to assistant surgeon; in 1864 was appointed, for meritorious service, surgeon of the Army of the Cumberland, but declined the position; one of the pioneer surgeons of this part of the State, and practiced his profession until a few years ago, when the infirmities of age compelled him to retire; died Saturday, April 3, 1920.

SHOBAL VAIL CLEVINGER, Chicago; Chicago Medical College, 1879; aged 77; a veteran of the Civil War; chief engineer of the Southern Dakota Railway; special pathologist to Cook County Institutions, Dunning; superintendent of the Illinois Eastern Hospital for the Insane, Kankakee, in 1893; for several years neurologist to the Alexian Brothers and Michael Reese hospitals; lecturer on art anatomy at the Chicago Art Institute, on physics at the Chicago College of Pharmacy and on medical jurisprudence in the Chicago College of Law; a prolific contributor to medical literature; one of the founders and first secretary of the Chicago Academy of Medicine; author of a two-volume work on "Medical Jurisprudence of Insanity"; died March 24, from cerebral hemorrhage.



W. F. GRINSTEAD, M. D.
PRESIDENT, ILLINOIS STATE MEDICAL SOCIETY, 1920-1921

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Original Articles

PRESIDENT'S ADDRESS

J. W. VAN DERSLICE, M. D.

OAK PARK, ILL.

During the past twenty-five years the practice of medicine has undergone wonderful progress; concomitant with the changes in scientific medicine there have occurred equally important modifications of the economic conditions affecting the practitioners of medicine.

A generation ago the demands of the state upon the physician were but few. In a general way they were compassed by the occasional death certificate and the reporting of a few contagious diseases.

With the increase in scientific knowledge there developed a large field of preventive medicine to which the medical profession gave active encouragement with the resulting exploitation of the profession which has been persistently progressive.

From the making of a few casual reports the profession has come to be harassed by an enormous number of regulations with special licenses, special entries in several books of record, and voluminous reports of prescriptions with special prescription blanks.

It would appear to the observer conversant with the facts that there is a trend of events that cannot be gainsaid; that the logical interpretation of past occurrences is that the medical profession stands today upon the threshold of state medicine unless the organized profession with united, persistent, aggressive measures combats the various agencies which are so surely bringing about a socialization of the profession.

This exploitation of the profession has not been confined to the legislative bodies but in no small measure it has been evolved by mem-

bers and organizations of the medical profession itself.

A few years ago there was introduced into our state legislature a bill which prohibited the qualified licensed medical man from doing any surgery until he had been in practice nine years. A few years later a bill which made it mandatory for all diseases of the jaw to be referred to the dentist. At the last session we saw introduced the so-called nurse's bill which made it a felony for a daughter to nurse her mother unless she had first received the degree R. N.

These bills all originated within the profession and received more or less support from part of the profession.

The legislators, not to be outdone, have with each recurring session of the legislature introduced bills without number which were vicious both to the profession and the public.

The initial step in the socialization of the profession was in the passage of the compensation act. This act, with which you are all too familiar, puts the burden upon the physician rather than on the parties most directly interested.

In the state of New York they are today passing through the severest conflict that the profession of this country has engaged in, over the passage of a compulsory health insurance measure. If the promoters of this act are successful in one state it will mean that one state after another will be attacked until all the states have enacted such laws.

The story of compulsory health insurance is extremely illuminating and offers food for much thought on the part of the medical profession.

Compulsory health insurance was introduced into Germany as one of the Bismarck measures; some ten years past it was introduced into England.

In England it was introduced and passed before the medical profession was aware of such intention. This found the English medical world entirely unprepared for such a contin-

*Read at the 70th Annual Meeting of the Illinois State Medical Society at Rockford, May 19, 1920.

gency. In England, as in this country, there were men of prominence who endorsed the measure and it was largely because some of the officers of the British Medical Association were in sympathy with the law that the British profession were lulled into non-resistance until too late. However, there soon arose an uproar, with a hurried meeting of the association and the organization of a defense committee. In many communities the profession at first refused to go on the panel, but these protestants were told that unless the physicians of the community would undertake the work that the government would put in whole-time men. There, as here, the organization of the profession was in such a state that it was conceded that it would be easily possible for the government to secure a sufficient number of whole-time qualified medical men at a remuneration less than would be paid to ordinary skilled labor.

If in England some of the leading scientific medical men were in favor of the bill and if in this country we find the president of the American Medical Association speaking in favor of the measure, are there then two sides to the question? Is it perhaps true that the medical profession does not know what is good for it? Without any prolonged discussion of the subject it may be stated that compulsory health insurance means the socialization of the profession. Will this removal of all competition tend toward a higher level of scientific attainment? Has the experience in the countries in which it has been tried proven that efficiency has been improved? During the past war was it demonstrated beyond all doubt that the regular army medical men were superior to those mobilized for the emergency? Has the public health service of this country developed such high standing in its attainments that we are ready to trust all to such an organization?

Many of our most scientific medical men date the beginning of the decadence of German medicine as coincident with the installation of compulsory health insurance in that country. It is too early to draw any definite conclusions from England, as the advent of the war may have modified the results as they now appear.

However, there is much to learn from the experience in England. For example, it is shown that a majority of disorders are recovered

from on Monday; that there are practically no recoveries on Saturday and but very few on Friday; that practically all illnesses range from eight to eleven days' duration.

A movement which is now under way in England is exceedingly instructive as to the next step in the socialization of the medical profession of Great Britain.

In the city of Glasgow there is being worked out a scheme for a public medical service as a substitute for the compulsory health insurance provisions now in operation, which, it is said, provides medical service for only one-third the population; it is proposed to build up a complete medical service, furnishing unrestricted treatment to every citizen needing it, thus involving the enrollment of the medical profession and the public control of all general hospitals and infirmaries.

The Bridgetown district, which has approximately 100,000 inhabitants, is taken as an example. It is found that the volume of business represents 3.11 dispensary visits per person per annum, house visits are one-fourth the dispensary visits. There it is estimated that this mass of medical work can be done by twenty-seven physicians working thirty-three hours per week. A twenty-five per cent. increase is allowed for seasonal variations, also obstetricians, specialists, etc., making a total of forty-three physicians. These physicians are graded in three classes with salaries ranging from fifteen hundred to forty-five hundred dollars per year. This amount of work when figured out is two hundred and eighty-five patients per week or about nine per working hour per physician. The character of the work performed under such circumstances may be easily imagined.

But there is no need of going to foreign countries for reasons for fearing state medicine. Read the comprehensive programs of the American Red Cross and of the United States Public Health Service. Note the free treatment of all venereal cases and of the tuberculous by the state; the growing demand of municipal health officers for the hospitalization of all contagious cases.

At the meeting of the A. M. A. held but recently at New Orleans there were many paternal and socialization schemes introduced. As an example, one of the past presidents of the

association introduced a measure advocating that all hospitals be turned over to a lay organization for standardization and control.

Undoubtedly the greatest menace which now confronts the American medical profession is from within its own ranks.

During the past year there has developed a working agreement between the American College of Surgeons and the greatest and most influential hospital association in this country. With these two powerful organizations working in unison the individual physician is at a very distinct disadvantage and so long as the individual must work as such the program as laid down by this alliance gives promise of achievement.

Doctor, what effect will it have upon you financially and professionally if you cannot take a patient into a hospital as your patient? How will it seem to have it necessary for your patient to be registered as the patient of one of the attending men at a hospital? Perhaps you will welcome the new idea of a hospital making a so-called composition fee which embraces not only the hospital service but includes all medical, surgical and laboratory fees. Will it not stimulate your thirst for knowledge when you awake to the fact that the little hospital in your community is now to have a whole-time surgeon to do all the surgery performed in that institution? Will it be pleasant for you to learn that your patient sent into a hospital, after the discharge from that hospital, is being tenderly cared for by a well-organized follow-up system; a system that has for its foundation a theory that the welfare of the patient is best cared for by the institution rather than the personal physician; a scheme that minimizes the efforts of the family doctor in order to magnify the influence of the institution.

Each year at the annual meeting of this society there is reiterated the need of closer organization. Academically each one recognizes the desirability, but nothing is done. How long is our profession to remain in this lethargy with the shadow of portentous events upon us. Shall we, as the English profession, awake when the shackles are upon us? The Lloyd George bill, as the health insurance measure of England was known, did not grow out of a demand, more or less general, in England for health insurance,

but rather it was a political measure to save a losing ministry.

What does medical organization mean? What should we expect and rightfully demand of those put into position of authority in medical organizations? Ought it to be possible for the president of the national organization to favor publicly any measure which the profession has opposed in no uncertain voice, as it has any and all compulsory health insurance schemes, and against which the profession of a state is as bitterly fighting as was the New York medical profession during the past winter? Their testimony is, that the greatest obstacle they had to overcome was that of President Lambert's approval of the measure. Is it not singular that a man whom the profession has so signally honored is willing to take the position that the profession does not know what is good for it?

The American Medical Association is the great democratic organization that should have for its especial object the welfare of the rank and file of the profession. The Illinois State Medical Society as a component state society should also have this as its watchword. There has been much left undone by the organization. The unjust, unparalleled tax of \$450,000 per annum from the profession under the Harrison anti-narcotic law was allowed to pass the houses of Congress without the slightest protest of organized medicine. So, with the regulations of the Volstead act, the organization without protests has allowed much of the burden to be placed upon the profession.

There are more or less constantly emanating from within the profession suggestions that the profession organize into labor unions and become affiliated with the American Federation of Labor. In so doing many of us can see but slight advantage, with tremendous disadvantages. However, it is obvious that this call for unionizing the profession is but the expression of disappointment at the inefficiency of our now lax organization.

The need of the hour is for a more militant organization. The profession must speak and speak with one voice. The individual must forsake his personal views for those of the majority.

There is now sitting in Springfield the constitutional convention. Early in its session there were received in Chicago telegrams, long dis-

tance telephone calls and special delivery letters, the burden of which was, like the cry of the man from Macedonia, "Come and help us." The league of medical freedom had introduced a proposal which, if enacted, would allow any and all to practice the healing art.

These eleventh hour calls to combat vicious legislation are of such frequent occurrence that after deliberate consideration on the part of the council of the Chicago Medical Society it was decided that the continuance of organized medicine merely upon the defensive toward vicious legislation introduced by the various cults and pathies was an error and that a definite offensive policy should be undertaken. In compliance with this new attitude there was introduced a proposal which was afterward known as proposal No. 300. This proposal had the unanimous support of the council of the state society and the Chicago Medical Society. It met with the almost unanimous support of the county societies throughout the state. The committee of the constitutional convention to which it was assigned was friendly. You may imagine the chagrin of the representatives of the organized profession when informed that the chairman of the committee in the "con con" had been requested by the Christian Scientists to submit the proposal to seven named physicians before he gave it his support and these seven names included the names of the doctors that are members of the "con con."

The politician now laughs to scorn the medical profession with its hundreds of thousands of members and stands in awe of an organization of a few thousand.

Each year at Springfield we are told over and over again that the profession will not stand together. Nevertheless your society has initiated an attitude of offense rather than defense. It may be said that the profession of this state stands ready to go forward as never before. This attitude must be strengthened. What an organization, functioning as it should, can do, is exemplified by the outcome of the society's activities opposing the annual registration of the physicians of this state.

It would appear that the various legislatures were vying to make it as easy as possible for the cults and pathies to practice medicine and penalizing the medical profession.

In the existing statutes there are many inequalities; these should be removed as soon as possible by an energetic offensive to secure from the legislature such legislation as shall make but one door for all who practice the healing art.

Any and all modes of paternalism and socialization should be energetically opposed. Upon what stuff do these paternalistic designs feed? That the requirements for entrance into the medical schools as well as those for license to practice have gradually increased under state control has been attributed to the inefficiency of individual in contrast to group methods. But is it not rather because of the changing from a rural to an urban community; the development of the science rather than the art of medicine; the methods of instruction; the passing of the preceptor? Have not all these increased the demand for a more thorough training before entering the practice of medicine?

As further evidence of inadequacy they point to the many health measures enacted by various legislative bodies; to the various cults and pathies that exist from time to time, as well as to the large group found incapable of military service by the draft boards. In reply to the first it may be stated that the politician elected to office desires to build for himself a monument with a law that costs the state nothing and assumedly is beneficial to the people; to the second, that medicine has competition is the sincerest of flattery; these pathists are ambitious to belong to an honored profession but are not willing to undergo the strenuous training requisite to make a physician and so devise a short-cut to their aspiration. Much is made of the point of the great industrial corporations with their sickness and old age benefits and their recurrent examinations of employees as a manifestation of philanthropy toward the employee. Do they not know that these large institutions are but taking a page from Bismarck, whose entire idea of state health insurance and old age benefits was that these people could never demand freedom from the state, as their capital was invested in the state? Does any one question that the large industries are using these same methods to prevent strikes and walkouts? Has not the principal factor in keeping the railroads going been the fear of loss of priority?

The defeat of the compulsory health insur-

ance measure in New York should not soothe anyone into a feeling of security, as there they are already at work with new propaganda to secure the same end.

The medical profession of this country has given organized and individual effort toward the creation of a United States Department of Health. To this idea all have subscribed; this largely, first, because it appealed to our vanity; second, because many prominent members of the profession approved it. Nevertheless, the safety to the profession depends wholly upon the attitude of the recipient of the office.

For example, the aim of some of the advocates of this venture is that the department regulate the practice of medicine and allied professions; supervise all state departments of health; all state institutions, hospitals and dispensaries; that all candidates to enter the study of medicine expecting to receive state appointment shall first secure a certification of fitness from said department and only to enlist such number as the service shall annually require; in other words build up the same political institution as West Point; to fix a health standard above the minimum of which individuals are to be considered well; to have periodic physical examinations of every individual in the state; the establishment of compulsory treatment, without limitation, other than recovery or death, of those compulsorily examined and found to be below the minimum standard of health and of those taken sick; a compulsory sickness insurance system to provide funds; the insurance premiums and payments to be determined along actuarial lines. Here is the embodiment of the defeated New York measure dressed out in new attire to be foisted upon an unsuspecting profession by the establishment of a national department of health.

Politicians look with much favor upon any new scheme which increases the patronage they may be able to dispense in the form of salaried positions, as these assure at least that many workers at the polls.

That the above picture is not greatly overdrawn as to the activities desired by those now in authority in the government public health service is evidenced by the many bills that have been introduced in Congress in which the various states were to receive government subsidies

when these states agreed to act conjointly with the Public Health Service.

There is to be a very definite attempt to secure a national department of health in the near future. Before giving the endorsement of the organization to this venture a little caution should be exercised to see what safeguards there are to be against state medicine.

With the present status of society almost daily there is some new fad being exploited in which the medical profession is expected to donate much of the service while all other arms of the venture receive adequate recompense. These should certainly receive no encouragement, though it may not always be politic openly to oppose.

It would seem advisable that there be a sort of clearing house through which the secretaries of the county societies should receive information upon all topics touching the economic condition of the profession. While much of this is constantly put before the members in the JOURNAL, open discussions of many of these subjects would add much to society meetings and stimulate interest and activity in no small degree.

The profession as a whole should be educated along the political lines affecting the profession. They may safely be taken into the confidence of the leaders of the profession; all is to be gained and nothing lost by such a policy.

There is an unrest among the profession as in other walks of life. However, no one need fear but that the intellectual aristocracy of the commonwealth will do itself justice in this crisis of reconstruction as it did in the period of hostilities. There may be still among the profession those who deprecate as money grabbing any development that places the profession upon a sounder business policy. Be that as it may, today we are confronted not only by a threatened socialization of the medical profession but by a tendency to paternalism which is detrimental to the independence of thought and action of the free born American citizen.

In closing I desire to express my gratefulness to each of the officers of this society for the energetic, wholehearted support which has been accorded me.

I offer to the society my heartiest congratulations on the JOURNAL as now edited by Dr. Chas. J. Whalen. The State Journal has in the

brief ten months of his management taken a definite place in medical journalism of this country. Unless the journal of the national organization becomes more active upon the behalf of the economic rights of the members of the profession I bespeak for your JOURNAL the foremost place among medical periodicals in the United States.

MENTAL SANITATION*

GEORGE F. BUTLER, A. M., M. D.

Medical Director, North Shore Health Resort, Winnetka, Ill.

WILMETTE, ILLINOIS

Exterior environment and internal equipment are so related in cause and reaction that no consideration of one without the other is finally valid to any understanding of wellbeing in either. This has especial meaning with reference to the actions and reactions of man's physical and mental sides.

The body is a mechanism, comparatively gross. Being gross, it is amenable to finer and powerful influences originating in or coming through the action of its internal equipment, the mental part.

The broadest, most inclusive view is briefly summed in the dictum of Hamlet. "There's nothing either good or bad but thinking makes it so."

A man lives in a world of thoughts so much as in a world of things. What he thinks affects his wellbeing quite as much as what he eats and drinks. Mental sanitation is therefore coequal in importance with physical sanitation—a co-ordinate arm of sanitary science. This was known to Moses of old, who was the first great sanitarian. Without the principles laid down by him, we would have no sanitation; but in addition to these, Moses piled upon succeeding generations those basic laws of morals, of thinking, that to this day govern all civilized peoples in the conduct of their lives; not only as individuals, but as races and nations.

The visible, the ponderable and the material world, is the product and outcome of the invisible, the imponderable and the immaterial. All those things which occupy space and which have the characteristic accidents of matter are but the expression and manifestation of that all preva-

lent form of energy termed force. Science accepts the truth that "those things which are seen were not made of those things which do appear." The visible is the product of the invisible, the phenomenon of the noumenon.

In an average human body weighing 140 pounds, nearly 104 pounds is water. Water is a combination of two gases, oxygen and hydrogen. The rest of the body is composed of albumen, fibrin, casein and gelatine, organic substances which themselves are resolvable into the four essential gases, oxygen, hydrogen, nitrogen and carbonic acid. "Thus our body is composed only of transformed gases." The vegetables we eat are almost entirely drawn from the air—all vegetables may be resolvable into air, water, or those gases which we have already found in the body. A meat diet is simply a diet of transformed vegetable matter.

Materially considered, therefore, man is merely a stream of sensations, an ever changing ebb and flow of particles. The only constant quantity within him is that invisible, unchanging ego, which no one ever has seen, yet which remains the same through infancy, childhood, manhood and age, which organizes and coordinates particles and sensations, and to which we give the name of soul.

Thus "we find as the support of the universe and the origin of all form, force—the dynamic element."

Such a consideration as this positively changes our old way of looking at things. The world of the seen becomes the world of the unstable, the unreal, of appearance, phenomena. The unseen world becomes the world of reality, of substance, of that which is abiding and causative.

Turning from the macrocosm to the microcosm, we find a similar state of affairs. In men we discover that it is the invisible and immaterial which in large measure determines the visible and material. The utterance of the sage concerning man, "for as he thinketh in his heart so is he," is finding proof and increasing evidence in the science of this present day.

This understanding we reach along the road of science—not of philosophy—in these days. It is by no means profitless to turn our attention now and again in that direction, since it gives balance, counsel and proportion to all right thinking and living.

*Read before the Chicago Medical Society, Oct. 15, 1919.

It is possible for the physiologist to trace the vibrations produced by light or heat from that end-organ in the body which receives them, up the nerve, to the ganglion in which that nerve terminates, even from ganglion to the brain; and then the investigator reaches a gulf he cannot cross. He stands on the border of a mystery. How vibration is transformed into sensation; how motion becomes notion, or notion, motion; how volition becomes action; no physiologist has ever been able to say.

But while the process of sensation and of volition is but partially known, and therefore essentially a mystery, yet two facts are provable beyond a doubt. As sensation proves the action of body on mind, so does volition prove the action of mind on body.

That thoughts do actually affect things is evidenced every day of my life. The movement of my hand is the simplest, nearest evidence. I will to move my hand; I move it; my thought has affected that thing called a hand.

Let us look more widely. The clothes we wear, the houses in which we dwell, their furniture, pictures, books, all are evidences of the fact that thought affects things.

What is graphic art but thought applied to the realm of form and color? So is sculpture, and so architecture. What is music but thought applied to the world of sound? A great city with its streets, buildings, institutions, is only group-ideas manifested in material form—an embodiment of the invisible.

What do we mean by state, nation, civilization? Simply the cooperative and interrelated thoughts of many minds applied to and manifested in that great system of men and things called life. It is likewise true that these things once called into being react upon the thinker and his thought—a reflex influence.

Do you ask why the Italians are natural musicians? Because they have been reared in a musical environment, an invisible but irresistible power. Why are the Americans and English liberty-loving? Because as we figuratively yet accurately express it, they have breathed the air of liberty. These and a thousand other like instances illustrate the fact that the mind is colored by what it feeds on.

But observe this: were there not thoughts in things, things could not affect thought. All these

varied material things of our artificial environment, which so powerfully affect and influence our thinking, were thoughts before they were things.

In speaking of man's external environment it is well to remember that man lives not only in a natural environment, but in an acquired or artificial environment which Nature's children make for themselves; and the acquired environment influences and affects the wellbeing of man quite as much as does the natural. The natural environment makes us merely animals; the artificial environment makes us men. The acquired environment is altogether and provably the product of mind. Therefore, mental sanitation is a most important factor in material sanitation, and the two must labor hand in hand for the promotion of the highest wellbeing.

Dr. W. Hanna Thomson, in a little book entitled "Brain and Personality," presents purely physiological evidence that the mind makes the brain. The old view, introduced by Hippocrates and continued down to Karl Vogt, Cabanis and other writers in the earlier years of the nineteenth century, that the brain is a gland and secretes thought just as the liver secretes bile, has gone, never to be revived.

Dr. Thomson from a study of the relation of speech to the brain, and of growth, development, effection and destruction of speech centers in the brain, has given good evidence that the brain is not to be likened to an Aeolian harp played upon by wandering winds, but is rather to the violin, which responds to the touch and interprets the soul of its intelligent master. The brain is an instrument of the mind, which instrument the mind not only uses, but makes to use and makes through use. Thomson expresses it well when he says, "As none of these wonderful mental faculties, including that of speech, was connected with brain matter at birth but was created afterward, it follows that they were created by the individual himself anatomically modifying his own brain. That brain-matter itself did not organize these physical areas of mental function, is shown by their entire absence from the convolutions of the wordless hemisphere."

Again he shows that thought efficiency is not proportionate to brain quantity, therefore it is not dependent on the size of the brain. And the brain of the chimpanzee, as far as structure goes,

presents us not only with every lobe but with every convolution of the human brain. If the similarity of brain formation and mechanism be all that is needed, there would be no reason why baboons could not become philosophers or mathematicians. That is, the chimpanzee has as good a violin as Hoffman, but he is not as good a player. Thomson tells farther that we can make our own brains, so far as special mental functions or aptitudes are concerned, if only we have wills strong enough to take the trouble; and finally he says that the facts of brain anatomy and of brain physiology indicate that this organ of the personality is never other than its instrument, while the personality itself is as different and as separate from it as the violinist is separate from and not the product of his violin.

We could not ask for anything clearer than the testimony of Professor James, of Harvard, that

"All mental states (no matter what their character as regards utility may be) are followed by bodily activity of some sort—not only particular states of mind such as those called volitions, for example, but states of mind as such, all states of mind, even mere thoughts and feelings, are motor in their consequence."

To this same end has spoken Professor Ladd of Yale; and President Hall of Clark University says still more positively, "there can be no change of thought without a change of muscle." Prof. Elmer Gates, of Washington, deposes to the same effect: "Psycho-physical experiment proves that conscious experiences, such as those of sensations, intellections, emotions, create structural changes and additions in brain cells, which additions remain as the unregistered memories of those experiences." And the important conclusion is that mind activity creates organic structures, and that mind embodies itself in the mechanism of the body.

We conclude from these general principles that the quality or character of thinking affects the quality or character of our brain, brawn, health, conduct, life. That is, the hygiene of the mind is of as great or greater importance than the hygiene of the body—which is another way of stating that a clean mind and a happy disposition are a legitimate branch of sanitation in a broad sense. Let us then affirm that unclean, impure, unwholesome thoughts affect the man's physical system—that aggregation of matter

which he inhabits and which we call the body. "As a man thinketh in his heart, so is he," does not mean that a single thought will cure a cancer or even fill an aching tooth. It does not mean that states of mind tend constantly to register themselves in consequent physical condition. Morbid conditions of mind mean, by and by, morbid conditions of body.

Weakness, irresolution, fear, prepare a soil altogether favorable for the seeds of disease. On the other hand, healthy states of mind—minds free from all grudge, bitterness, envy, minds filled with faith and hope and love—make for health, as do sunshine, fresh air, and pure water. As a man thinketh in his heart, steadily and insistently, be it up or down, so he tends to become!

It is a great deal harder to cultivate right thoughts, right desires, right purposes so that they shall always bear rule within, than it is to go and take something out of a bottle—the real heights of human experience are never reached without hard climbing. But the cry "Good health for a dollar a bottle" is rapidly becoming a spent force. The cry of good health at the price of the cultivation and training of all one's powers, physical, mental, spiritual, by bringing them into joyous harmony with the Infinite, is now to the fore.

Thinking manifests itself most readily in the face. Thoughts of grief affect the tear ducts and cause the man to weep; laughing thoughts, acting upon the appropriate muscles of lip, cheek and eye, make the laughing countenance. The mental state of anger will make the heart beat more rapidly, send the blood rushing through the body with increased velocity, and flush or pale the face. Fear will cause perspiration to break out over the body, drive the blood from the face, and cause such muscular tension or paralysis that severe illness follows and sometimes death. Fear is certainly a mental state affecting the physical man. In fact certain mental states affect the respiration, circulation, the nervous system, and the entire physical man, for harm. Nothing is more clear or familiar to my experience as a doctor than that the mental state known as anxiety, worry, doubt, affects the entire physical man adversely.

These are facts of common knowledge. They have been familiar for years. But the great

advance in these days has been in the discovery of the causes of these striking effects. Professor Gates has shown "that the change of mental state changed the chemical character of perspiration. When treated with the same chemical reagent the perspiration of an angry man showed one color, that of a man in grief another, and so on through the long list of emotions, each mental state persistently exhibiting its own peculiar result every time the experiment was repeated," confirming Professor James' statement "that each kind of thinking, by causing changes in glandular or visceral activity, produced different chemical substances which were being thrown out of the system by the perspiration."

"My experiment," says Professor Gates, "shows that irascible, malevolent and depressing emotions generate in the system injurious compounds, some of which are extremely poisonous; also that agreeable, happy emotions generate chemical compounds of nutritious value, which stimulate the cells to manufacture energy."

It is apparent then that when the late lamented Bill Nye spoke of having a "dull maroon" taste in his mouth on the morning after the night before, he voiced the effect of deep remorse in the language of fact rather than of figure.

Whether you are ready or not to accept the results of Professor Gates' experiments is unimportant. It is clear that our attention is very definitely directed to the undeniable fact that an unwholesome mental state causes unhealthful bodily conditions. That many a physician would prescribe more wisely and well for his patient by directing the patient's mind than by dosing his body, I have little doubt.

As it is true that unclean and unhappy thoughts effect the bodily health adversely, so it is likewise true that clean, wholesome and happy thoughts affect the entire man helpfully and healthfully. Dr. Anderson says, "experiments comparing agreeable exercises with those that are not so agreeable showed that movements in which men took pleasure set in motion a richer supply of blood than those which were not to their liking. Pleasurable thoughts send blood to the brain; disagreeable ones drive it away." And President Hall has written, "The hair and beard grow slower, it has been proved by experiment, when a business man has been subjected to several months of anxiety. To be happy is essen-

tial. To be alive and well and contented is the end of life, the highest science and the purest religion." I do not believe anyone will be inclined to disagree with the conclusion.

So it is plain that if a man's thoughts are sweet and wholesome, if his disposition is hopeful and happy, it will be better for him bodily, socially, economically and politically; in every way better for himself, and therefore better for his environment, which includes those many other persons with whom he comes into contact and relation for help or for harm. Indeed, one of the best services man can render to his fellow man is to have a calm mind and a sunny disposition, and so radiate light wherever he goes.

That a clean mind and a happy disposition are practical possibilities is capable of substantiation. The mind has power to determine itself.

This is indeed the essential characteristic of mind. I am not going along the path of the afferent and the efferent nerve to the various ganglia in the spine; I am not going to dwell upon the function of reflex action, sometimes thought of as unconscious action, which it never is, nor am I going to call attention to the limitation of reflex action in the well-recognized law of inhibition; I am not even going to sing the familiar song of Habit, its uses and abuses, though that song will never grow old nor cease to make its music or its misery in life so long as nerve stuff is capable of education through stimulation; I shall avoid all these fascinating by-paths, and simply affirm the fact that the mind has the power of self determination in its own mental states. This is the divinity within a man; this constitutes personality. Gain the ear of the will first, and everything follows naturally, because physiologically. Therein is the analogy here between outer and inner, general and individual sanitation.

When the legislature, local or general, enacts laws regarding clean backyards, pure drugs, pure food, the end of all sanitary work is in a measure accomplished; but after the enactment must come application and untiring enforcement of the law. As the campaign previous to the passing of the law must in large measure be a campaign of theoretical education, so after the law is on the statute books there must be a combined effort for practical education, until the people at large get the sanitary habit.

Likewise when those of the inner branch of sanitary science can bring it to pass that the legislature resident in every man shall enact laws regarding clean thoughts, happy disposition, the value of mental pure air and of thought sunshine, much will have been done in the direction of better living.

There is another side to the affirmation that the mind has the power of determining itself. It is the peril which always accompanies the possession of power. It is possible for the mind to prove traitor to itself, to sell its birthright, and as Shakespeare says, "make the worse appear the better reason." Prove false to the light you have, and your light becomes darkness. An evil will can compel the mind to give good reasons for a bad cause.

A prominent body of professional men among us live by letting out the entire equipment of their mental faculties for hire. After a lawyer has accepted a retainer he commands his mind forthwith to busy itself with all its resources of reasoning and of persuasion for the party who pays him. Even his emotions, from the extremes of pathos to those of indignation, may be pressed into the service as well. But no man can let out his will for hire, and he lies when he pretends to.

Therefore, an eye open to the light and a will responsive to the self-evident truth is the only simple, safe prescription for making a brain that will deal with you honestly. "To thine own self be true, and it must follow, as the night the day, thou canst not then be false to any man."

For the man with the unhappy and disagreeable disposition to say, "I was born as I am, and I am not responsible," is to surrender the goodly country without a blow; is to play traitor and throw open the gates of the mind to the entrance of every hostile influence. It is to yield the case before it has been begun. To seek to shift the responsibility and to lay the blame on other than self, to say, "Don't blame me, blame grandfather or Oliver Cromwell or anybody else for my disagreeable disposition," is to follow a common, natural, and fatal tendency. You may remember than Adam blamed Eve for the trouble, and Eve blamed the old serpent, and I have little doubt the old serpent did not allow the blame to remain on his head; and so it has gone, from that day to this.

If we do not blame our ancestors for what we are, we blame our contemporaries, or our environ-

ment or anything other than self. The absurdity of this is plain for the reason that the environment will never make the man; it only helps the man to make himself. In saying this we do not minimize the importance of the environment, but we do magnify the importance of the mind, and the mind in its largest sense, is the man. It is the man who makes the environment. There are many people who are falsely prolific in excuses. For every failure they bring forth a perfectly adequate and plausible explanation. They always keep a scapegoat tethered in their neighborhood. There never was a criminal who could not to himself make out a good case for himself.

The utter fallacy of all self-excuse is further plain from a consideration of the kingly power of the human will. No one and no thing can compel my will, but myself. This power I can exercise, though I can not explain the process by which I do it. I only know I can.

"This freedom of the self from determination by the world of objects," says Clark Murray, "is the fact which alone explains, without explaining away, the knowledge that there is within us a center of conscious activity which is, in the last resort, impregnable to any assaults of mere force. You may apply to any organism superior forces of organic bodies, and compel it to act as you wish. You may employ all the sensible inducements at your disposal in order to bend me to your purpose; you may tempt me with the most bewitching sights of sense, or scare me with its most frightful agonies. You may even, by ingenuity of torture, so shatter my nervous system as to prevent me from carrying out into the world of sense the deliberate resolutions of myself. But there is one thing which mere force—force separated from reason—cannot do: it cannot compel me."

Nay, I say it reverently, even God refuses to compel man's will, and his power over us is limited by that amount of will-power which He has delegated to us. This power of will within us is our resident Divinity, and we are like Him in that we are free agents.

If one should ask how our unhappy and unwholesome dispositions have grown to be what they are, the process can be stated in almost syllogistic form.

We have begun with the false major premise, "I am not to blame for my disposition." We have continued with the false minor practice of

crabbed, critical, unsympathetic, unhappy thoughts and acts with respect to this and that person, this and that situation, until we have reached the miserable conclusion, and like Sinbad the sailor, continue our burdensome, baneful way through life with that old man of the sea, an unhappy disposition, clinging to our backs.

Some one will ask, how is this unhappy disposition to be changed? I answer in like manner: as it was created; by degrees, by persistence, by patiently unraveling the mental tangle, by gradually displacing the sad and anemic cells of the brain with healthier, wholesome substitutes; by recognizing the power of happy thinking; by exercising that eternal vigilance which is the price of personal as well as of political liberty.

The very fashion of our features and the attitude of our bodies can help us in this worthy work. It is possible to get out of bed in the morning with a pleasant expression on the face, and to sing while dressing, if you only will do it. Force a smiling face and the smile will come spontaneously after a while. The Japanese have consciously trained themselves in the art of smiling. "Cultivated from childhood as a duty, the smile soon becomes instinctive."

Suppose each morning when you awake to a hard day, you utilize the well-known principle of mental suggestion by deliberately storing the mind with right thoughts. Begin your day with the repetition of certain assurances, uttering them over and over with your lips, and your mind, and your soul, until the full strength of them is felt in every cell of your being. "I will fear no evil." "In quietness and in confidence shall be my strength." Begin the day with these and other promises like them ringing in your ears, singing through the secret chambers of your mind, throbbing with added strength in the pulsations of your heart. When you relax the tired muscles and the weary brain at night as you sink to sleep, do it with the same confident assurances furnishing your final mood, and yielding their wholesome, restful influence through all the hours of sleep.

I know a woman who has cured herself of a tendency to melancholia by going into a room by herself and exercising her risibilities until the outward action produced the inward state. A smiling face may induce a smiling mind. To this effect has William James written in his talks

to teachers: "Thus the sovereign voluntary path of cheerfulness, if our spontaneous cheerfulness be lost, is to sit up cheerfully, to look around cheerfully and to act and speak as if cheerfulness were already there." In short, if you haven't a happy disposition get busy and make one.

What is the final cause or trend and promise of all this sanitation, mental and material?

I believe it to be obvious that a perfect environment is futile for an imperfect man. If the man will not correspond with the environment, the environment will not make him. It is possible to be the son of a professor, in a college town, and grow up an ignoramus, or to live in the sunshine of Southern California, and dwell in a cave.

Jacob Riis has shown us that sanitary tenement houses may be used in a most insanitary way by people who are not willing to live up to the improvement. Moreover, a perfect man is helpless in an imperfect environment; the environment will kill him, as corrupt Judaism killed the Christ, or as fever-laden air will kill the strongest man. But when we have reached the point where we have a perfect man in a perfect environment; a clean and happy mind in a clean and wholesome world, then the old ideal of the Roman philosopher is attained—"mens sana in corpore sano." Then the terms of the definition of life of the modern scientist are satisfied; and we have the conditions of life eternal.

The testimony of science is to the effect that the environment is improving year by year, age by age; this is the promising principle of material evolution.

The testimony of the psychologist is to the effect that the mind is advancing and improving year by year and age by age. This is the promising principle of spiritual evolution.

X-RAY TREATMENT OF EXOPHTHALMIC GOITER*

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The treatment of exophthalmic goiter and other forms of thyrotoxicosis by the roentgen ray

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is of definite value when its selection is properly made and its application properly performed.

Its use dates as far back as 1905; since that time it has been used by some of the prominent Roentgenologists and a few clinics; however, no general attention has been given to this subject, although much literature has accumulated since then. The work of Stoney, Lange, Pfahler, Holmes, Boggs, Grier and other American contemporaries has been gifted with the gratifying results of amelioration and cure, the percentages of cure being so satisfactory as to invite a more universal application of a method that is associated with such a relatively small margin of danger.

Roentgenotherapy is not to supersede surgical interference, rather is to be preferred in many cases because the percentage of cure is as great as that following surgical intervention. No doubt great judgment in the selection of cases for surgical work is necessary, also great skill in surgery and anesthesia is required. The death rate in surgery runs about 6 per cent while recent developments by Crile have reduced the rate of mortality to 1.1 per cent in 388 consecutive thyroidectomies. It must be conceded however, that it is highly probable that some of the deaths were unavoidable and might have terminated in death as a natural sequence, so that statistics do not do justice to surgical practice. Granting this to be true, there is still a balance in favor of roentgenotherapy for no deaths follow its use.

To determine the value of any form of treatment it is necessary to know and consider the percentage of patients suffering from the disease who recover without any treatment. Stanton believes that exophthalmic goiter is a self limiting disease and that in from 60 to 70 per cent of the cases, spontaneous cures occur at the end of five or six years. Hale and Whitney followed eighty-seven cases of exophthalmic goiter treated at Guy's Hospital, London. After a number of years it was found that sixty-one of these patients were cured, twenty-one vastly improved and five remained unimproved.

These reports if accepted, would seem to imply that if any form of treatment is of value, it must give a high percentage of cures or produce prompt relief of many symptoms. In this respect roentgenotherapy is to be the method of choice.

Early operations are better than late ones, this applies with equal force to the early use of x-ray, for it is a rather unfortunate circumstance to advise roentgenotherapy as a last resort.

Experimentally it has been shown possible to destroy the glandular structures by subjecting them sufficiently to the roentgen ray. It is also known that the higher organized type of cell and tissues of the lymphatic system are especially vulnerable to the destructive action of this form of light.

The structure of the thyroid gland is somewhat allied to lymphoid tissue and we often have an associated enlargement of the thymus gland. (Kocher found this to be true in fifty per cent of his operative cases).

If these are the facts and the amount of irradiation sufficient to destroy the gland is not greater than that which will produce an injurious effect on the skin, it should be possible to remove all or part of the gland by roentgenotherapy, and produce results similar to those achieved by surgery without the dangers connected therewith.

Great emphasis must be laid on the importance of careful diagnosis and the selection of patients to be treated. The physicians best able to treat goiter must have developed sufficient judgment to enable him to select the treatment, medical, surgical or roentgenological, best adapted for each individual case. To determine this a careful study of many factors is necessary.

In the past operations have been performed on the wrong class of cases at the wrong time, either too late or at the height of the toxic symptoms. Many cases have been treated too long medically. The same can be said of many roentgenologists; they have treated cystic, calcareous or colloid goiter and expected results. Should the case not be one of thyrotoxicosis, irradiation may produce harm, therefore, these cases should be studied by a competent clinician.

Crotti classifies enlargements of the thyroid gland as benign, or malignant tumors, or inflammatory.

Benign tumors he divides into parenchymatous and colloid. The parenchymatous are subdivided into physiological, non-toxic and thyrotoxic; and the colloid into osseous, calcareous, fibrous and cystic.

Microscopically the parenchymatous form

shows an increase in size and number of the normal glandular element, but they have kept more or less their natural relation to each other. Colloid goiter varies considerably in degree, the main characteristic is an increased amount of colloid material. Colloid degeneration may be localized or affect the entire gland; it may later give rise to a cyst. The cyst may become chronically inflamed, thus forming a fibrous goiter.

Even in diffuse colloid goiter every follicle has not undergone colloid degeneration. There are always a number of normal vesicles between the degenerated follicles which will proliferate and form new alveoli to make up for the lost function of the degenerated follicles. Adenomatous goiter, either of fetal or adult type of parenchyma may be encapsulated or diffuse, and shows a regeneration of a previous atrophic parenchyma.

Goiters have been classified as hyperplastic and non-hyperplastic, at the Mayo clinic. Two thousand nine hundred and seventeen cases were operated on between January 1, 1909 and January 1, 1913. Of these 42.8 per cent were hyperplastic and 57.2 were non-hyperplastic. Of the hyperplastic 92 per cent were toxic and 8 per cent were non-toxic. Of the non-hyperplastic type 23.3 per cent were toxic and 76.7 per cent were non-toxic. According to Wilson the pathology of the thyroid in true exophthalmic goiter is essentially a primary parenchymatous hypertrophy and hyper-plasia, that is, an increased amount of functioning parenchyma associated with an increased absorption. The process is an acute one. The pathology of a toxic simple goiter is marked particularly by atrophied parenchyma, decreased function and decreased absorption and is usually a chronic process. The pathology of toxic non-exophthalmic goiter (that is, those resembling exophthalmic goiter) is one of increased parenchyma through regenerated processes in atrophied parenchyma of the fetal type, with increase in each instance of secretory activity and of absorption. This process is also a chronic one.

The differential diagnosis of many mild atypical or very early cases of thyrotoxicosis by means of the ordinary clinical signs and symptoms can only be made with varying degrees of probability.

The symptoms of hyper-thyroidism vary somewhat in type as well as in intensity and need not necessarily be proportionate to the size of the

thyroid gland. There are all grades of hyper-thyroidism varying from a typical case, with all the classical symptoms to a case of simple nervousness, characterized by slight muscular tremor, moderate cardiac irritability, little or no exophthalmos, with little or no enlargement of the thyroid.

Laboratory methods such as the determination of basal metabolism and hyperglycemic tests, serve as determinants of exophthalmic goiter, bearing a similar exactness as does the Wassermann test to syphilis. Lastly, but not least, is the application of a therapeutic test, when a remote possibility of exophthalmic goiter is entertained. By this is meant, the application of roentgenotherapy and noting results. The great virtue in doing this is its harmlessness and the occasional surprising curative results.

The transitory symptoms produced by changes in the thyroid may not be due to hyperthyroidism or to hypothyroidism, but rather a dysthyroidism (Janney). This should make it apparent that an excision of part of the thyroid gland or treatment by radiation requires considerable judgment.

Animal experimentation has shown that there is a super-abundance of the glandular element of the ductless glands, with a wide range of functional activity, often permitting the removal of a large portion of the gland without apparent loss to the system. It has been estimated a child needs at least one-third of the thyroid while the adult may maintain perfect health with one-sixth of the gland.

The adolescent goiter accompanied by toxic symptoms is amenable to roentgenotherapy with no untoward results. Medical and surgical treatment are sometimes considered with reluctance because of the dangerous possibilities and also because they tend to get well spontaneously.

However, it is impossible to prognosticate the ultimate result in after years, for C. H. Mayo has stated, "that such glands are subject to degeneration,—fibrous, cystic or calcareous."

Boggs treated such cases twelve years ago and states that up to the present time none of these have shown evidences of degeneration.

TREATMENT

The writer has practiced two techniques:

Technique 1. Interrupterless machine, broad

focus Coolidge tube. Parallel spark gap 9 inches. The rays filtered through four m. m. of aluminum and 1 m. m. of leather. The skin focus distance was 8 inches. Three areas were treated at each sitting, each area receiving two-thirds of an erythema dose. Areas treated: 1, right half of goiter; 2, left half of goiter, 3, thymic region. This constitutes one treatment. Repeat in three weeks.

Give such treatments then stop for three months; this is considered one series. Then give a second series. If necessary a third series may be given after waiting three months.

Technique 2. Interrupterless machine. Broad focus Coolidge tube; 9 inch parallel spark gap, 4 m. m. of aluminum filtration. 1 m. m. of leather filtration. Skin focus distance 14 inches. Sitzings 3 to 6. Six areas, 1, right anterior thyroid; 2, left anterior thyroid; 3, right anterior thymus; 4, left anterior thymus; 5, right posterior cervical ganglion area; 6, left posterior cervical ganglion area. Dose, one-half erythema over each area. The same frequency of repetition as technique 1 applies. The technique as given in 2 is one of choice when patient is not highly toxic, permitting a gradual recrudescence of symptoms with less tendency towards recurrence. The areas over the cervical ganglia are included, based on the observations of Cannon that stimulation of these centers causes secretory activity in the thyroid, conversely the effect of the x-ray seems to inhibit their action.

Supporting Cannon's claims are the operative results of Schwartz who practised bilateral resection of the sympathetic nerves with some good results.

If for any reason such as cardiac debility or marked thyrotoxicosis immediate results are desired, technique 1 is to be employed.

If operative interference becomes necessary it is desirable to give an intensive course several weeks prior to operation.

Some claims have been made that changes in the capsule interfere with the removal of the gland; this however, has been refuted by the experiences of Ludin, Holmes and others.

The earlier the cases receive treatment the sooner their response to roentgenotherapy.

The favorable signs are the abatement of the nervous symptoms, gain in weight, slowing and stabilizing of the pulse, with a lessening or dis-

appearance of exophthalmos in about 40 per cent of the cases. The goiter may or may not decrease in size.

In ambulatory cases no interference with the daily occupation is necessary; in marked thyrotoxicosis regulation of diet and rest, both physical and mental are essential.

All foci of infection should be removed, especial attention being paid to the teeth.

Some of the undesirable and dangerous possibilities are hypothyroidism, telangiectasis and atrophy of the regions treated. These patients are particularly susceptible towards atrophy and telangiectasis, and as the majority are young women, the resulting disfigurement (when it does occur) is of considerable import. These changes are more liable to occur when unfiltered rays are used or repeated erythema produced.

The first treatment may increase the toxemia to a dangerous degree. To guard against this, start with small doses and precede same with rest in bed. Where surgery has been employed but no complete cure effected, great caution should be used as the danger of hypothyroidism is then greater.

Treatment should not follow operation too soon and should not be prolonged.

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DIABETES MELLITUS*

JOSEPH HALL, M. D.

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Dr. J. B. Dalton in the preface to his work on physiology stated that the recent discovery by Claude Bernard in 1857, of the glycogenic function of the liver promised to reveal the true nature of diabetes.

Since that time many facts relating to the subject have been discovered, but diabetes mellitus remains a mystery. We hear of bread as being the staff of life, but to a diabetic it is a poison. This only illustrates what a calamity it is to suffer from diabetes because true diabetes is considered incurable. This statement becomes natural when we recognize what the real facts about diabetes are. The muscles are the furnaces of the body, supplying it with heat and power. The blood in the veins from the large muscles like the gluteus maximus is much more venous in its character than the blood in the right chamber of the heart. This indicates how much of something has been burned up in the muscle while the blood was coursing through it. That something is the carbohydrate in our food composed of the starches, sugars and fats. It is the combustion of these elements of our food in the muscles that we find the source of heat and of the power which the body requires for its life, but in diabetes the muscular tissues do not sufficiently burn up the carbohydrates. These have been before properly changed into the most easily consumed of carbohydrates, viz, sugar—and as the muscles fail to oxidize it, the sugar accumulates in the blood until it is beyond what the blood can carry, viz—15 per cent. All above this has to be gotten rid of by the kidneys causing glycosuria or sweet tasting urine. Glycosuria is, therefore, the first sign of diabetes, and when it is found no one can be sure whether it will go on to full diabetes or not. Often glycosuria can be made to disappear either by lessening the intake of carbohydrates or by drugs so that some speak lightly of the appearance of sugar in the urine as not itself of much importance. One might as well say that fever is a trivial sign, because it is so often transient and moderate in degree. Glycosuria is always a danger signal. The carbohydrates never make tissue, but on the

other hand, they have to go through various processes before they can be burned up. The first is their conversion into glycogen, in which form they are stored up in the liver and also in the muscles. The storage of glycogen in the liver is estimated as one-tenth of its weight. Bernard, on its first discovery by him, correctly said that the final change of glycogen is for fuel in the muscles. The principal preparatory process necessary for the glycogen to be burned up by the muscles is by the action of the internal secretion of the ductless glands, the deficiency of which will suffice to cause the sugars to escape combustion and thus produce glycosuria. The most remarkable illustration of this is furnished by the glands embedded in the pancreas. The glands have nothing to do with the function of the pancreas itself. Their relations instead are with the metabolism of the carbohydrates, and it is not owing to the mere quantity of their secretions that their specific effect is produced, for if only a few of these glands remain when the pancreas has been cut away, those few glands are sufficient to answer all the purposes of preventing glycosuria. This clearly proves that all these glands do is to produce an enzyme, however small the quantity, which will answer all the purposes.

The secretion of other ductless glands can also bear the same relation to the metabolism of the carbohydrates. This is shown in that remarkable organ in the body, the pituitary gland. This small body, which weighs only about five grains, is located in the most inaccessible part of the skull, the sella turcica, and notwithstanding its small size, it bears important relations to the nutrition of the body. Injuries to the base of the skull are often followed by glycosuria, which may also appear when a tumor is growing in the neighborhood of this gland irritating it. Should the tumor however destroy the gland then we find the opposite of glycosuria developing, for the patient can now show great tolerance for sugar and a marked increase of fat in all parts of the body.

Glycosuria or true diabetes may also develop in diseases of that other ductless gland, the thyroid, and then soon proves fatal. The ductless glands are all associated together in their functions so that they are found to be enlarged or diseased in common in the same person. As

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to the relation of the ductless glands to the production of diabetes, there is little doubt that their functions though necessary, are simply preparatory to the ultimate use of the carbohydrates by the muscles. The conclusion then is that diabetes is primarily a muscular disease, but how it is so, is as yet unknown.

Diabetes goes by contraries. Ordinarily, youth is the age with the best outlook for the future, but in diabetes, the prognosis is invariably worse the younger the patient, and steadily improves with advancing years. With young children, it is soon fatal in most cases. It is curious that though the liver holds the greatest store of glycogen in the body, diabetes of hepatic origin is unknown. The liver may be damaged by accident or disease with no trace of consequent diabetes. The same is true of the kidneys. Though the kidneys have so much work to do in the polyuria, which carries off the sugar in the blood, yet diabetes is not associated with kidney disease. Men are more frequently affected than women, the ratio being about two to three. It is also a disease of the higher classes.

In severe cases of diabetes, the disease may go on though all carbohydrates have been removed from the diet. The continuance of diabetes in them is, however, due to the destruction of proteins in addition to the carbohydrates of the body itself. And while this is occurring, there is a marked increase in the urea eliminated from the body. It is then a good plan to regard the percentage of urea as a good standard for estimating the gravity of the complaint. The general lowering of the vitality caused by diabetes renders the body very susceptible to various infections, chief among which is the tubercle bacillus, which carries off a large number of diabetics. Thus pneumonias of diabetics are likely to become caseous or terminate in gangrene. Pus organisms are also apt to invade the skin and give rise to boils or large carbuncles. Every case of carbuncle should have the urine examined for the presence of sugar. Symptoms are usually insidious in its onset, the patient first noticing that he is passing more water and more frequently. Along with this is often an abnormal appetite or a sense of hunger; then he notices that he is more easily fatigued than usual. Emaciation usually sets in in a majority of cases soon after polyuria.

All along he is thirsty and when the disease becomes fully established, the thirst becomes exceedingly distressing about two hours after meals. In addition, the patient becomes irritable and nervous or else melancholic. The skin is ordinarily dry and harsh unless the patient is phthisical. One of the most striking symptoms is the appearance of the tongue. It is red all over and has been called the beefy tongue. In advanced cases, the breath has a sweet odor and this symptom is of serious importance. As a rule, the bowels are constipated, and the patients are frequently depressed in spirits. Cramps in the calves of the legs are very common and lumber pains, which may be mistaken for lumbago, the distinction being that the pains are not aggravated by bending the spine, which they always are in lumbago.

The treatment of diabetes is wholly empiric owing to our ignorance of the pathology of the disease. Thus there is no accounting for the fact that the younger the patient the more hopeless the case, while the prospect becomes better and he becomes more amenable to treatment in proportion to his advancing years. Other facts also reported by well qualified observers in the history of this complaint are equally unexplainable. Patients with severe and chronic diabetes until even dangerous acidosis is present, have wholly recovered after surgical operations, such as those about the prostate gland in males and the removal of the uterus in females. Such occurrences are not explainable. One fact is well established and that is that each person has his own ability to use starches in his food. Many persons find that a marked excess in partaking of starchy foods causes glycosuria, but this varies with each individual, for whole races of mankind as the Japanese live upon nothing almost but rice, yet they are no more subject to diabetes than other people. When glycosuria is caused in any person by excess in partaking of starchy foods, it is termed alimentary glycosuria, and is readily cured by diminishing the amount consumed. The clinical rule is, therefore, universally applied, viz, to find out how much any individual may partake of starchy foods without sugar appearing in the urine. In most cases this restriction in itself suffices to cure the complaint. In severe cases, however, as before stated, sugar still appears even though all carbohydrates have been

excluded. The sugar must then be formed from the protein tissues of the body itself. The so-called alimentary glycosuria may happen in persons who are normally fat and if it is not controlled by the withdrawal of carbohydrate food it will soon yield to the administration of five to ten grains of antipyrin with an equal amount of sodium salicylate. The treatment of diabetes by drugs is not satisfactory except in persons after middle life.

For a long time opium and its derivative, codein have been reputed as the most efficacious drugs; it should undoubtedly be used in those otherwise hopeless cases in young persons. Opium may be given in one grain doses four times a day gradually increasing until the patient shows symptoms of opium poisoning by symmetric contraction of the pupils and slow respiration. It is noteworthy that these patients show a great tolerance for opium. Some preference is given to codein because it is less constipating. As with all other drugs in the treatment of diabetes no effect will be produced unless the patient is on a rigid diet. The only reason that opium or any of its derivatives are recommended for this disease is because the percentage of sugar in the urine is temporarily decreased, but a permanent cure of diabetes by this drug has never been reported so that most observers seldom use it because it is only a functional medicine. Cod liver oil has been used by some excellent men with success where it can be taken in large doses without interference with digestion and extended over a long period of time. Iron has also been extensively used. As before stated, diabetes being a muscular disease in large measure, muscular power is in proportion to the intake of oxygen and as iron acts as an oxygen carrier, patients should be given all the iron that they can take, with all the fresh air that they can get.

The next agents to be considered are coal tar derivatives, such as antipyrin and phenacetin, including salicylates and the benzoates; with these agents should also be considered arsenic acid watching the development of arsenical symptoms. If the patient is voiding large amounts of sugar so that speedy reduction is necessary, give fifteen grains of antipyrin with a like amount of sodium benzoate four times a day. If insomnia be present twenty grains of strontium bromide with fifteen grains of antipyrin at bed time will

be found useful. By careful observation and skillful management the lives of diabetic can be much prolonged along with the preservation of bodily strength so that in many instances they continue in active business for years.

DIABETES INSIPIDUS

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AND DON C. SUTTON, M.D.

CHICAGO

The disease under consideration is one of considerable rarity, the frequency, according to one author, Fletcher, being only .001 per cent., or in other words, seven cases in something over four hundred thousand. There has been some confusion in differentiating this malady from other conditions accompanied by polyuria. Also, as will be mentioned later, in a number of mental conditions polydipsia occurs and this is naturally accompanied by an increased output of urine.

The case about to be reported concerns a male Italian, 27 years of age. Beginning about the first of June, he began to have an intense thirst, accompanied by a marked excretion of urine. There were no other symptoms. In particular we inquired as to the presence of pain, cough, and also in regard to his weight; he denied any loss.

Past History. We were unable to discover anything of importance in his previous illnesses and the same is true of the family history.

The physical examination was entirely negative except that there was, in the left pulmonary apex with the x-ray, evidence of fibrosis, apparently a healed tuberculosis.

During his stay in the hospital his urinary output ranged between 6,000 and 9,000, usually about 7,000. There is nothing in his makeup to make one think of any mental disturbance.

Having in mind the possibility of a lesion of the pituitary gland, the eyes were carefully examined by R. B. Blue, who reported entirely negative findings. Also an excellent x-ray of the head was made by Miss Brindley and the sella turcica appeared to be entirely normal. There was no enlargement and the outlines were all very distinct. The laboratory findings showed a normal or practically normal blood count and a negative Wassermann. The urine showed a gravity ranging between 1005 and 1008,

usually about 1006. At no time was albumin or sugar found and the microscopic examination was always negative. An attempt was made to study the concentrating power of the kidney, and, although some difficulty was encountered in controlling the patient, some of the figures show that he was in reality able to concentrate which would indicate, according to the work of Meyer, that the cause of the malady lies in the pituitary gland (or at least central) rather than in the kidney. On a normal diet he excreted 9.18 grams of NaCl in 6120 cc. of urine. This shows a concentration of approximately 1.5 (1.47) in one thousand.

After the ingestion of a normal diet plus ten grams of salt, the output amounted to 12.36 grams in 6400 cc. of urine. This gives a concentration of 1.87 grams per thousand cc. The patient was then given 20 grams of sodium chloride in addition to his regular diet and he excreted 19.32 grams in 6500 cc., making a concentration amounting to 2.92 per thousand cc. For the four days preceding the collection of the specimen which gave the high concentration just mentioned, the patient had been receiving between 9 and 12 grains a day of desiccated pituitary gland (whole gland). An attempt was made also to study the urea concentrating power of the kidney. On normal diet, the urea output was 13.172 grams in 24 hours, this being 2.4 grams per thousand cc. At the same time the patient was given 10 grams of sodium chloride, he was given also 5 grams of urea and he excreted 4 grams in addition to his normal output.

It seems justifiable to assume, in view of the above observations, in spite of the fact that we have negative head findings, that this patient is suffering from diabetes insipidus, due to some trouble in the pituitary gland, probably of the nature of a hypopituitarism although he has no somatic indication of it (no genital disturbance, no increase of fat, etc.).

Meyer classifies the polyurias as follows:

(A) *Primary Polydipsia*, which occurs in the insane, paronia and also in hysteria. In this connection he mentions a young boy who was of rather nervous type who passed about 8 liters a day. Under strict supervision they were never able to determine the source of the fluid he drank, although they felt sure that he was obtaining fluid not accounted for, because of the great vari-

ation in the daily output of urine and also of variability in the specific gravity.

(B) *Primary Polyuria*, under which is classified true diabetes insipidus. Of the latter there are two varieties. The *Idiopathic* and the *Central*. Diabetes insipidus of central origin may be caused by cerebrospinal lues, cerebral tumors, especially of the hypophysis, meningitis, and trauma. E. Frank mentions a bullet wound in which the bullet was found in the region of the sella turcica, the patient showing increase of fat, diminution of sexual power and the urinary findings of diabetes insipidus.

Newark mentioned a case with the following post mortem findings: Tumor of the infundibulum extending through the lamina terminalis between the frontal lobes backward into the third ventricle and destruction of the neuro hypophysis pars intermedia and also the pineal body.

In considering the differential diagnosis of polyuria, it is necessary to rule out first of all diabetes mellitus and convalescent polyuria (such as occurs after typhoid). Next we must consider polyuria due to some anatomical lesion, such as: Contracted kidney, pyelitis, tuberculous kidney, urinary stasis which may be due to a large prostate (one case of which showed a urinary output of seven liters daily) or due to the pressure of a uterine tumor in which as much as 5000 cc. have been passed in 24 hours. Also it is necessary to rule out certain nerve conditions, such as developmental troubles, disease of the glands of internal secretion, cerebrospinal syphilis and psychic conditions. The polyuria due to this latter cause has a very great variation in the daily output of urine.

Before going on to the various theories in regard to the disease, we wish to mention one clinical fact which seems to be of rather great importance. In diabetes insipidus, the urinary bladder may undergo a marked dilatation and it is not uncommon for a person suffering from this disease to pass as much as 500 to 800 cc. at one time, or even more. With even a very marked distension, there may be no discomfort.

Various observers have suggested the following theories:

1. Lack of ability of the kidney to concentrate the urine.
2. A primary polydipsia occurs with a normal kidney function.

3. That it is a polyuria purely symptomatic in origin, produced by stimulation of the kidney by many causes.

Finkelberg and Forschbach and Weber think that the concentrating power of the kidney is not lost but that the kidney, under pathological stimulation, excretes larger amounts of urine. Schwenkenbecker adds that the kidneys and the body as a whole may have acquired a certain tolerance for water, similar to that exhibited towards certain drugs.

Engle thinks that it is a prolonged nerve stimulation, possibly in the medulla, which results in the stimulation in the glomeruli to a greater secretion or inhibits the absorbing power of the tubules, or both.

Stuber thinks that the condition may be an adrenalemia; Frank and Motzfeldt both favor the pituitary gland as the seat of the trouble; Frank asserts that the condition is due to a hyper-secretion of this gland and Motzfeldt to diminished secretion.

Camus and Roussi were able in dogs to completely remove the pituitary body without the production of polyuria. Later in the same animals, by the production of a lesion in the floor of the third ventricle, they were able to bring about a prolonged polyuria.

F. A. Matthews experimentally showed that the first effect of pituitary extract was a marked contraction of the kidney with a decided decrease in, or suppression of, urinary secretion, for fifteen or twenty minutes, followed by a dilatation of the vessels of the kidney with a marked diuresis. He succeeded in inserting a piece of rubber dam against the posterior lobe in two dogs, each of which developed a typical diabetes insipidus. This caused no destruction of the gland as the wound healed by first intention. The dogs became fat and lazy and were typical of a hypopituitarism, so the lesion would appear to be an irritative one that would cause a hypersecretion. He asked the question, "Would a prolonged hypersecretion cause a constant dilatation of the vessels of the kidney?" The dogs appeared to be unable to utilize fat and sugar properly. Both showed enormous deposits of fat in all the organs.

In concluding, we must state that the more one reads the literature on this subject, the more confusing the subject becomes. The result of the work of one observer is found to be denied by another. When we stop to think that the field of

operation in all this experimental work is extremely small, it is not difficult to understand that contradictory results may be obtained. For example, Eric Meyer points out, in experimental work upon the pituitary body, it is practically impossible to avoid injury to the sympathetic system and it is known that the irritation to this set of nerves does produce polyuria.

In regard to prognosis, one may say that this is good in regard to life but very poor in regard to ultimate recovery.

Treatment: In those cases of polyuria due to some determinable cause (such as urinary stasis) it is obviously important to treat this cause. Also, in certain cases of basilar syphilis, an excellent recovery is brought about by the appropriate treatment. In mental cases, persuasion has been tried but without much effect. Also, in these cases a very few have tried hypnosis but this has not been used often enough to allow conclusions. The diet is somewhat important and it is necessary to try to omit foods containing salt or foods which produce urea. Meyer states that a vegetable diet tends to cut down the urine. After dieting for a time the tolerance of the kidney seems to be raised. Also it is advised to be especially careful about the evening meal, so as to insure a good night. The majority of observers find that the patient improves on the administration of extract of the pituitary gland. Motzfeldt administers at bed time a hypodermic of the extract of the posterior lobe or six or seven fresh ox glands, also at bed time. This tends to reduce the polyuria at night. As time goes on, the dose may be reduced and the full effect be obtained, possibly because the gland has had a rest.

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DISCUSSION

DR. ALBERT B. YUDELSON said that the polyuria which is not infrequently present in the organic psychoses is easily differentiated from diabetes insipidus

in that the qualitative and the quantitative changes in the urine of the former are so markedly different from those in the latter. Disturbed metabolism resulting from disease of the central nervous system or vasomotor changes in the kidney caused by psychoneurosis, produce a polyuria. But the polyuria is transitory. In melancholia and depression, oliguria is common.

Qualitatively, indican and acetone are often found in the urine of general paretics and in cases of melancholia, indicating metabolic disturbances due to malnutrition; while albumin is not an infrequent finding in the urine of organic psychosis, delirium tremens, epilepsy and acute mania. None of these substances are found in the urine of diabetes insipidus patients. Again, they are free from psychic or mental disorders.

As to the differentiation between a plain polyuria and a true diabetes insipidus, Ekhard showed that a simple hydrouria occurs if the nerves to the liver have been divided previous to excitation by mechanical, electrical or chemical stimuli. The main problem lies in the determination as to the causative factor in diabetes insipidus, and workers are divided in their opinion for the lack of uniform findings. Then arises the question: is the polyuria due to the indigestion of large quantities of fluids induced by thirst, or is the polydipsia due to the excessive secretion by the kidneys of essential body fluids? Lesions of the pituitary body, we are told, produce polyuria. The successful removal of the hypophysis, wholly or in part, shows that the effect on animals is the production of apathy, muscular twitching, spasticity, rapid respiration, polyuria highly alkaline urine without albuminuria or glycosuria. In man, tumors of the anterior lobe of the pituitary body most commonly produce quite different symptoms. Lesions experimentally introduced in the posterior lobe of the pituitary body, which is an outgrowth of the third ventricle of the brain and has no glandular structure and is probably rudimentary in vertebrates, have been known to produce a polyuria and excessive thirst. Yet it is evident that the seat of thirst sensation is in the epithelium of the throat and the mouth, the peripheral nerves of which perceive the sensation the same as sensory peripheral nerves are sensitive to pain. Brachet has shown that thirst sensation is transmitted by vagal paths; also, patients afflicted with atresia of the esophagus readily quench their thirst by holding water in their mouth.

But assuming that centers of hunger and thirst are localized in the third ventricle or in some part of the hypophysis, anencephalic human monsters, having but the pons and medulla, crying at birth, are readily quieted by nursing.

The question as to whether renal nervous disorders may be responsible for polyuria, can be approached on the consideration of both the nerve and the vasomotor supply of the kidneys. The vaso-constrictors of the kidney arise in the dorsal tract of the cord. In the dog the anterior spinal routes from the fourth dorsal pair to the fourth lumbar contain vasocon-

striction fibers for the kidney. These vascular fibers, after piercing through the ganglia of the sympathetic chain, run to the solar plexus and thence to the renal plexus by the splanchnics or other paths. We may judge by analogy that secretion of urine is under the control of the nervous system the same as is gastric secretion; the latter proven by Pawlow.

The work undertaken by the essayists was indeed very difficult. And the solution of the problem presented, he was sure, would be awaited with intense interest by all engaged in this work.

DR. GOLDSMITH, in closing, said that by certain experimental work done by him, it had been found possible to produce a greatly increased polyuria, without an increase in the intake.

CHEMO THERAPY IN TUBERCULOSIS*

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Tuberculosis, being one of the oldest recognized diseases, has been given more time, study and research work than any other disease.

It was long believed to be a transmissible disease, but not until 1865 was this proven conclusively. After this advancement was made, nearly 20 years elapsed before the infective agent was discovered by Koch, who was able to isolate, describe and cultivate the micro-organism which is now recognized as the causal agent of tuberculosis.

Several types of this bacillus have been demonstrated, but I have only been interested particularly in two—the human and bovine types. These are very similar in habits, effects and appearance, and I think any remedial agent that would affect one would have the same result on the other.

The structure and composition of this thing seems to have baffled all our efforts to apply some remedy to destroy it without destroying its host.

I have devoted some time to cultivating them and watching their growth, but I do not know in what manner they propagate as it is impossible to see them until they are fully developed.

I believe the commonly accepted theory is, after they have gained admission or entrance in the animal system they are immediately attacked by the leucocytes, and should the attacking army be greater and stronger than the invaders, they

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entrench themselves within an impregnable wall and remain as tubercles until such time as there is a more favorable opportunity for them to make further invasion.

When the body's power of resistance has been lowered sufficiently by any other cause they break down this wall and come forth with greatly increased forces or numbers and go on until the tide of battle turns against them again, this being repeated until finally their forces have increased and numbers multiplied sufficiently for them to carry on their battle to a victorious (for them) ending.

Heretofore our efforts have been along the line of building up the body's power of resistance and keeping these things penned in until they give up all efforts of multiplication and destruction, and we have an arrested case of tuberculosis.

In test tube experiments it is a very easy and simple matter to introduce some chemical solution which will prevent further growth and actually destroy the bacilli, but bringing the destructive agent in contact with them in the live body is altogether a different proposition. There again the agents which are capable of destroying them in the test tube are also generally able to destroy the live body as well.

The very thing that caused the discovery of the tubercle bacillus is, in my opinion, very likely to cause its downfall or destruction, and that is its staining qualities. We all know it is very difficult to stain this thing owing to its fatty and waxy construction, but once it is stained it retains the stain even when treated by acids, so is recognized as an acid fast bacteria. I have always found that one that is stained is either dead or devoid of power of propagation. This has led me to numerous experiments with dyes and combinations of dyes and I finally settled on a violet dye of the rosanilin group as being the one most suited for my purpose.

In test tube experiments with this solution I can prevent growth entirely or stop it at any stage, but as previously remarked it is a simple matter to do these things in test tubes, whereas it is more complicated to do the same things in a live body.

In looking over the habits of the now recognized tubercle bacillus and being unable to determine its manner of propagation, I have come to the conclusion that the formation of the

tubercle is not merely an entrenchment or protective resource it has or that propagation takes place in these tubercles, but I think the formation of these tubercles is one of the steps in propagation and the spores or spawn or whatever term we wish to apply is formed in these tubercles and, providing the field is right, these tubercles break down and growth takes place, and while this growth is taking place destruction of the tissue takes place accordingly.

Now if we can get a remedy in contact with this inoculated field which will prevent the growth of the destructive things, there is not going to be much destruction, or, not knowing just when this bed is going to be inoculated with the substance which causes their growth, we can apply some remedy which renders the field sterile, there is not going to be much growth or much destruction. This thing happens in a test tube, and I am using it in living bodies and getting results, so I have reason to believe the same thing happens there.

I use from 75 cc. to 150 cc., according to size and weight of the patient, intravenously every four weeks, and have given probably a thousand injections, and never had a reaction, similar to those obtained from the use of tuberculin, from any of them.

There is no nausea, sickness or inconvenience of any kind noticeable following these injections. Patients get up from the table and immediately enter the dining room and eat as heartily as they do at any time. Some of them get on cars and ride 20 to 50 miles right after the treatment with no inconvenience whatever.

Numerous blood counts taken before and several days after treatments show a decided difference especially where the red is very low and the white high. We find the red increased and the white lowered. I have only had one case where both the red and white counts were unusually high and the temperature was also very high. This case was a school girl 13 years old, and all the time she had the very high temperature never complained of feeling sick or seemed to suffer in any manner, and the temperature never varied and it was taken at all times. I had several men look over this case with me, but we could not account for a steady temperature of 104.2° day and night and the patient not complain about feeling sick in any way. Clyde Jones

made a blood count in this case for me and he was so surprised at the high red count he made another one to check by and, getting the same results, attributed it to some trouble in the liver. The girl had this temperature for eight weeks and the first and second injections had no noticeable effect, but the day after the third one the temperature dropped to normal and she made a splendid recovery and in four months went home and is now attending school every day. I have never been able to account for that temperature and I have never seen or heard of a similar one.

This solution has an undeniable germicidal action, as has been demonstrated repeatedly by using it as a local dressing in infected wounds.

One of our local surgeons had a mine injury case where a young man 20 years old was crushed, fracturing his pelvis and rupturing the urethra. Perineal and suprapubic incisions were made and the bladder drained from both places. This patient developed a general toxic condition with temperature ranging from 100 to 101 deg., was delirious nearly all the time and boils broke out on his body and face. I don't know how many he had at one time, but he had eight on his face at the time the doctor asked me if I would give an injection of this solution. I had all preparations made for my vacation, but gave him the treatment before I left. I was gone two weeks and when I returned the patient was able to sit up in a chair while his bed was being made, and there was no signs of a boil. The attending surgeon is in this audience and, I think, will substantiate my statements.

Another case of infection was a man who had his knee cut by a threshing machine while threshing wheat, and the other men very obligingly filled this cut with grease from the machine and cobwebs from the wheat shocks, to stop the bleeding. About 9 days later he was brought to the hospital with a bad knee.

Several long, deep incisions were made and free drainage obtained and it kept on draining. I do not know the kind of dressings employed, but I know that there were some half dozen other incisions made around that knee, and an x-ray showed necrosis of head of tibia, part of patella and condyle of femur. The attending surgeon was very much dissatisfied with the progress of the case, and fearful he would not only lose the leg but lose the man. At his re-

quest I gave him some of this solution and he used a large glass syringe and injected it in all of the openings he had made. Within five days the discharge had practically stopped and the man is getting along splendidly. He now sits up a little every day, and the doctor is satisfied he is not only going to save the man's life, but also the leg.

This digression from the subject probably seems out of place, but I cited those two particular cases because they were not my own, and both of them were very serious cases, and both showed such splendid results which could in no way be attributed to anything else but the solution used, and to show also that it has real germicidal properties when administered either intravenously or locally, the solution used in both cases being the same solution I use for the treatment of tuberculosis.

UROGENITAL TUBERCULOSIS*

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This paper attempts a brief, practical review of tubercular infections of the urogenital tract. One or more organs of this group often are affected apparently without being secondary to pathology elsewhere in the body. This condition, however, is only apparent, as the original focus, usually in lung or bone, may be "latent" and cannot be demonstrated clinically. Therefore, if the infection involves but one locality and is diagnosed before extension, proper procedures give hope of permanent cure. The class of cases of which I shall speak are the early ones, those with indefinite, obscure symptoms. The diagnosis of the late case is obvious, and treatment useless—from the standpoint of cure. The mild types are those in which positive cures can be obtained and to this end all the diagnostic aid we can muster should be used. Local infection during miliary tuberculosis will not be discussed, as the general condition is the important one.

Among the common but most difficult conditions met with in urologic practice is renal tuberculosis. Of all the operations performed upon the kidneys, one-third are for tuberculosis and among 21,000 general autopsies 1 per cent

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had renal lesions. The clinical picture of early tubercular kidney is most closely simulated by a chronic interstitial nephritis, parenchymatous nephritis, or non-specific pyelonephritis. The history of progressive loss of weight and increasing polyuria, are the same in both cases. The chronic nephritic has a low specific gravity urine, no pus, and many hyaline casts. The blood pressure usually is high—the opposite to the tubercular patient. The parenchymatous type usually shows heart symptoms, edema of the face and extremities, and a heavy urine, diminished output with granular casts.

One of the most important factors is the demonstration of the Koch bacillus in the urine. This usually is quite difficult. It is necessary to examine many times in the suspicious instance before giving a negative decision. Not finding the germ does not rule out tuberculous infection of the tract. Contamination with the smegma bacillus, which has the same acid-fast staining properties, must be eliminated by special laboratory technique. It must not be forgotten that, first, a patient with pulmonary tuberculosis may have a nephritis without specific (tubercular) infection; second, a patient may have a unilateral tubercular kidney lesion, and also a nephritis of the other side. (This often is toxemic in origin and improves after removal of the more diseased organ); third, a person with pulmonary tuberculosis may have bacilli in the urine without renal pathology—it has been demonstrated that the germ may be eliminated in the urine and the kidneys remain unchanged.

The diagnostic factors are, the finding of the bacillus, the functional capacity of each gland as demonstrated by cystoscopy, ureteral catheterization, and the elimination percentage of dyes (indigo-carmin, phthalein, etc.).

Pyelonephritis (non-tubercular) at first shows all the symptoms that the specific case does, without the bacillus tuberculosis being present. Cystoscopy demonstrates more pus, probable bilateral involvement, and the process usually is more acute. The history often points to the acute infections or a chronic cystitis as causative. Culture most often demonstrates colon bacillus.

Other conditions which require differentiation, and having more or less likeness to the tuberculosis picture in some respects are: stone in the kidney, ureter or bladder, chronic prostatitis

and prostatic hypertrophy, chronic gonorrheal infections of the urethra or bladder, disease of the female adnexa, and lastly some of the neuroses. The history, local examination, x-ray, and cystoscopy eliminate these.

After this short survey of factors to be thought of, I will outline the case as it usually is encountered in practice. The patient usually is below par, weak on exertion, losing weight, with a progressively noticeable polyuria and pyuria (the 24-hour urine specimen shows the amount), albumin and casts, generally slight in quantity. The urine is acid. The tubercle bacilli may or may not be found by repeated examinations, culture and pig inoculations. It is at this stage that the prognosis is most favorable. A little later, as the ureter or bladder becomes involved, or the infection becomes mixed (*B. coli* is the commonest contamination) we find lumbar soreness, a marked frequency or tenesmus, and corresponding constitutional symptoms. These last, the fever, chill, and temperature, common to all types of the malady, depends on the size of the lesions and the organs involved. Rarely, one of the primary objective signs is hematuria (papillary tuberculosis). Usually, however, hemorrhage is associated with renal varix, stone or papilloma.

The kidney which is infected secondarily, ascending from the bladder or prostate via the ureter or lymphatics, will, of course, show the more violent urinary signs at once, due to irritation of the structures involved. The intense tenesmus and strangury usually is due to true involvement of the lower urinary passages, the occasionally quite marked symptoms obtain reflexly without corresponding pathology in the bladder or ureter.

The methods at our command for diagnosis, are as follows:

1. A written history, care being taken to ascertain data as to previous illness, local injury, infection in immediate family, and onset and course of disease.

2. A general physical examination, with special attention being given to heart and lungs. A blood pressure reading and blood count is essential.

3. Local examination, including (a) palpation of kidney and suprapubic region, (b) examination as to psoas and lumbar muscular

rigidity, (c) palpation of prostate, testicles, epididymus and vas deferens, (d) bimanual palpation, rectal or vaginal; this sometimes gives information as to the condition of the vesical end of the ureter.

4. The urethra should be examined with bougies for stricture and urethroscoped if there is clinical evidence of involvement.

5. The urine in two glasses is sent to the laboratory for examination. A 24-hour specimen should be taken and examined. Consistent polyuria is evidenced by the amount above the normal 1500 c.c. Specific gravity and acidity are important. Centrifugation, staining and examination for tubercle bacilli next are done. The sediment also is examined microscopically for evidence of nephritis or for other abnormal constituents.

I do not believe in the practice of provocative tuberculin injections preceding examination. It often changes a mild type of infection into a severe one.

Urea estimation is non-important, as variations in normal cases are too frequent. After cystoscopy and separate collections of urine with aseptic technique, counts of leucocytes in the specimens are important as showing the relative irritative reaction of either side. Inoculation of animals (the guinea-pig, usually) may be made from the sediment, thus obtained; in a certain percentage of cases typical tubercular lesions form in from 4 to 8 weeks. Results often are negatived by mixed infection.

The straight tube cultures are made at the time of examination by allowing 5 drops of the urine from each side to fall upon a tube culture. Incubating and plating shows the type of infection. The percentage estimations of the excretion of the various dyes used for functional tests, are done upon the separate urines collected for a certain time. (Routine preparation and aseptic technique are assumed.)

6. *Cystoscopy.* Probably more is shown by the cystoscopic examination than by any other procedure. The routine bladder examination shows whether cystitis, ulcerations, stone or growth be present. The ureteral openings often indicate the side most affected. Beginning tubercles of the viscus are plainly visible if present, but the bladder often remains unaffected for many months.

The perception of the ureteral jet of urine is important. The pale, cloudy urine from a side often is diagnostic. Injected indigo-carmin, eliminated as colored material from either ureter, gives us a very good idea as to the relative secreting power of either kidney. The secretion of the affected organ is faulty, as evidenced by scanty, slow and irregular color appearance in its urine. This phase of the examination is most important, as on the relative integrity of the kidneys depends, to a great extent, the possibility of cure. Phenolsulphonephthalein is a dye which, injected and measured as excreted from the respective sides, gives us the most reliable information obtainable. It is injected in solution intravenously, and the appearance time in the urine from the catheterized ureters noted. A marked delay in excretion from one side is suspicious. The percentages of the drug excreted in one and two hours are an index of the condition of the diseased gland and its fellow. It is not only necessary to show that one kidney is diseased, but that the other is capable of carrying all the load of elimination in case of operation. Total low dye elimination is an absolute bar to operative procedure of any sort, excepting abscess drainage.

In obscure cases the pelvis of the kidneys often must be injected with an opaque material—silver salts or Thorium—and an x-ray examination made. This will show changes in the size and shape of the kidney pelvis and calyces. The radiographic plate demonstrates stones in the tract, often secondary to infection. Sometimes an enlarged kidney will show, which fact when added to our data, may be important.

By the various procedures mentioned we may now, in the given case:

1. Eliminate systemic disease.
2. Localize the type of infection in the upper urinary tract.
3. Determine the amount of involvement of the organ or organs and their probable capability for regeneration.

The treatment depends upon our knowledge of all the conditions. The conservative method, even in early cases is not to be recommended as a small percentage only recover without recurrences. The usual general hygiene, forced diet and climate may, however, be a valuable adjunct to our treatment.

Urinary antisepsis is of little practical value

in this condition. Nephrectomy is indicated in cases with either slight or advanced pathology, if the other gland is normal or but slightly affected. If both kidneys are infected, one being pyonephrotic, drainage is indicated no matter what the condition of the other. At a later time, after the septic absorption is decreased, the patient may be in condition for its removal. The ureter should be removed if possible. The less infected organ often improves greatly after the operation. A badly infected bladder also recovers after the source of infection is removed. Toxic, non-tubercular nephritis in the remaining gland also is invariably benefited by operation. The "danger time" is immediately after the operation, when the kidney left is trying to accommodate itself to the excess load of excretion. For this reason the utmost in the way of pre- and post-operative care is essential.

Tuberculin may be used as an adjunct to the general build-up process. I have found it of some value in specific-tubercular-cystitis. The following is a brief report of a case which came recently under the care of Dr. G. Frank Lydston and myself:

Patient, Male, aged 26 years, weight 115 pounds, height 5 feet 9 inches. Has been ill for six months, very weak, anorexia, slight dysuria, slight day and night frequency. Some dull pain in back. History of intermittent pyuria, improvement and relapse. Has slight (101°) afternoon temperature at this time. Leucocytosis 11,000.

Examination: Patient emaciated. Chest and heart negative. Muscles of the right lumbar region slightly rigid; deep tenderness in corresponding side. Kidney palpable, enlarged and tender. Radiographic examination was negative. No tenderness over bladder. Genital organs—testes, prostate, and vas, negative. Urethra negative. Urine clear; 1012 specific gravity; few pus cells, and no growth on culture.

Cystoscopy showed a normal bladder fundus, but a slight trigonitis. The left ureteral orifice appeared normal—clear urine in jet. The right opening appeared slightly retracted, and pale rather than inflamed. No urine could be seen coming therefrom. Injected indigo-carmin showed from the left side in eight minutes. No color from right side. Left side catheterized. Right side blocked. Phthalein excretion (left side) 48 per cent in two hours.

Diagnosis. Closed kidney lesion, pyonephrosis, right side (probably tubercular). Nephrotomy advised, to be followed later by nephrectomy.

The nephrotomy was performed and followed by drainage. Three months later nephrectomy was performed. The kidney was greatly enlarged, with typical multiple abscesses and caseating foci. Microscopic

examination showed tuberculosis with mixed pus infection. Recovery was uneventful.

In conclusion permit me to emphasize the fact that the keynote of surgical efficiency in urogenital tuberculosis is early and accurate diagnosis. As a corollary, it is evident that all suspicious cases of urogenital disturbance demand early urological investigation by thorough examination, utilizing all the technical methods afforded by modern urological surgery.

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CONVULSIONS IN INFANCY AND CHILDHOOD*

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CHICAGO

Inasmuch as the greatest progress in treatment has come from the recognition of the fact that spasms and convulsions in infancy and childhood are merely a symptom of a most diversified number of underlying causes, it becomes necessary to approach this subject with an etiological classification. The causes may be arranged under two general groups; the chronic predisposing causes and the acute and exciting causes as follows:

GROUP I—THE CHRONIC PREDISPOSING FACTORS.

1. Conditions accompanied with demonstrable lesions of the nervous system. These may be of acute or slow onset and febrile or afebrile.
 - a Acute onset and with fever.
 - (1) Meningitis with its symptom complex—vomiting, headache, rigidity of the neck and anomalies of pulse and respiration.
 - (2) Acute encephalitis, cerebral abscess.
 - (3) Septic sinus thrombosis.
 - b Acute onset and without fever.
 - (1) Embolism, cerebral thrombosis. (Existing heart condition, this often being the first symptom.)
 - (2) Meningeal and cerebral hemorrhage.
 - a Birth trauma, syphilitic arteritis.
 - b Older children: spastic cough attacks, head injuries.
 - (3) Cerebral hyperæmia, spastic cough, congenital cardiac defects.
 - (4) Internal cephalæmatoma.

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- c Slow onset, afebrile, often existing from birth.
 - (1) Chronic internal hydrocephalus.
 - (2) Microcephaly, porencephaly, cerebral hypertrophy.
 - (3) Cerebral and spinal tumors accompanied by focal symptoms, especially cortical tumors, tuberculosis, syphilis, manifested often as diffuse and disseminated cerebral sclerosis.
- 2. Conditions unaccompanied with demonstrable lesions of the nervous system.
 - a Spasmophilia.
 - b Genuine epilepsy.
 - c Hysteria.
 - d Congenital and hereditary influences and tendencies.
 - e Nervous system of the infant *per se* due to its morphological peculiarities.

GROUP II—THE ACUTE PREDISPOSING CAUSES WHICH INTENSIFIED MAY BECOME EXCITING FACTORS.

- 1. Toxic Influences (Hematogenous) with or without a spasmophilic soil.
 - a Poisons generated from without.
 - (1) Drugs, as alcohol, strychnia, lead, arsenic, phenol, opium, etc., may be effective through the breast milk or wet nurse.
 - (2) Food poisons (ptomain, etc.).
 - b Poisons generated from within.
 - (1) Acute infectious diseases; scarlet, measles, pneumonia, influenza, etc.
 - (2) Products of intestinal putrefaction and decomposition.
 - (3) Products of defective internal metabolism, as uremia (post scarlet), diabetic, acetone-mia, asphyxia and terminal Co₂ poisoning (as in bronchiolitis), lithiasis, cholemia and Addison's disease.
- 2. Reflex Irritations (probably causal or operative only when a latent or active spasmophilic diathesis exists). These are numerous, the most important ones being: Difficult dentition, intestinal parasites, colic, constipation, acute indigestion, rectal and anal fissure, middle ear disturbance, foreign bodies in ear, intussusception, urolithiasis, phimosis, painful dermatosis, nasal affections, adenoid vegetations, burns, injuries and, in fact, even the slightest sensory irritation may cause a seizure.

In view of the above and before entering into the discussion of the pathogenesis and etiology of convulsions, one fundamental principle underlying this phenomenon should always be recognized, namely—the determination of a convulsion depends upon the reciprocal relationship existing between the exciting cause and the underlying condition of excitability of the nervous mechanism. In other words, for an occurrence of a convulsion, you must have both an adequate liberated stimulant and an adequate receptive state of the

central nervous system. The nervous system must be tuned up, as it were, to the necessary pitch of excitability. An attempted explanation of this law has given birth to many theories. The most important will be briefly cited.

At first the cause was assumed to be due to the morphological, physiological and psychological peculiarities of the childish organisms or nervous system. Then came Soltman's hypothesis that the inhibitory function is not developed or becomes effective before the period of man. This was followed by the autointoxication hypothesis, dealing with bacterial toxins, then the theory of Kassowitz that it was a concomitant symptom or sequela of rachitis, and still later Baume and Fere felt it was merely a special form of epilepsy. Later investigations of Tachanoff, Lemoine, Fleischman and others supplemented by the conception of Thiemich, Heubner and Finkelstein have established as a clinical entity a condition known as the "Spasmophilic Diathesis" which accounts for the occurrence of a goodly number of convulsions in infancy. This may be defined as a condition of infants and young children characterized by a measurable hyperexcitability of the central nervous system with a tendency to tonic and clonic spasms. This manifests itself in heightened reactions to mechanical and electrical stimulation, and by a tendency, clinically, to laryngismus stridulus, carpopedal spasm (tetany) and convulsions. The mechanical hyperexcitability is readily obtained by tapping the branches of the facial nerve over the cheek. If positive, there is a twitching of the muscles supplied. This is known as Chvostek's sign. The electrical hyperexcitability is tested for with the galvanic current. The so-called Erb's phenomenon is a cathodal opening current contraction with less than a 5-milliamperes current. Tronseau's is elicited by constricting the arm; the fingers then take on the obstetrical position, the hand is flexed on the the wrist: in other words the same position that is obtained in the more severe cases in which the carpopedal spasm appears without this pressure.

The diagnosis in general of convulsions of infancy and childhood is, obviously, the determination of the underlying etiological factor or factors. As general convulsions have no characteristic features to distinguish them, the type can only be definitely determined by close observa-

tion of the seizure, the taking of a careful detailed history dating from birth and a complete and often times repeated physical examination in the interim of the attacks. This includes the routine use of the ophthalmoscope and the taking of the child's electrical reactions. In fact, given a case with a history of repeated seizures, I firmly believe that the child should be hospitalized for three or four days in order to better establish a diagnosis. Lumbar puncture is of value, especially in prolonged convulsions, as it not only clears up a meningitis or cerebral condition, but it has a therapeutic value in relieving cerebral pressure which nearly always exists. Frequent repeated convulsions with fever in a previously healthy child suggests meningitis. Repeated seizures with little or no fever suggests rickets. Repeated non-febrile spasms not induced by a tetanized state speak for epilepsy. The reflex irritations mentioned above especially dentition and worms, are not, *per se*, the cause of the attack but generally light up a tetanized or spasmophilic baby.

In infancy: First ruling out cerebral conditions which are generally afebrile, except meningitis, frequently but not always showing signs of regional involvement limited to one side; likewise the toxic influences, and remembering that epilepsy is the least probable at this period of life, we have left for consideration the spasmophilic type. The conception and recognition of the spasmophilic diathesis is essential because of its frequency and because of the favorable outlook for effectual treatment. Convulsions, true eclampsia infantum, are only one of the manifestations of spasmophilia and the recognition of the other clinical forms such as laryngospasm, tetany or rotary head spasm, often occurring in the interim, is of the greatest value in differential diagnosis. The spasmophilic state may be active or latent, occurring, generally, in overfed, doughy or rachitic infants, rarely in breast fed, most often from 4 months to 20 months, rarely after the second year. Tend to recurrence, often as many as 20 a day, and are more prone to occur in the late winter and spring months. Fever never occurs in uncomplicated spasmophilia and is always indicative of the associated infection. Chvostek and Trousseau signs are positive; likewise an increase in the electrical irritability. While many theories have been advanced to ex-

plain this condition, it is largely considered at present to be due to a disturbance of the calcium metabolism or the parathyroid secretion or both. It has been shown that the Ea. and Mg. salts are inhibitory in their action in the body and the Na. and K. salts are exciting. When this equilibrium between these groups is disturbed, a spasmophilic state exists.

In older children: After ruling out toxic and cerebral cause, we must differentiate hysteria, epilepsy and latent spasmophilia, the latter by searching for the transient clinical manifestations mentioned above, especially the Chvostek sign, and for a disturbed electrical reaction which by the way has not the same standard of value in milliamperes as in the infant. Epilepsy and hysteria are not so easy. The presence of the stigmata of degeneration, a violent sudden onset with a cry or fall, if patient injures themselves and the urine and feces are evacuated involuntarily, if followed by a prolonged sleep and there is no recollection of its occurrence and if there is a change in the type of plantar reflex one hour after the attack, it was probably epilepsy and not hysteria.

Prognosis: This depends exclusively on whether the convulsions are merely the manifestation of an overexcitable nervous system or are the initial symptoms of organic meningeal or brain disease. With each convulsion the inhibitory control is lessened and each succeeding attack requires less cortical irritation than its predecessor. One convulsion may change the entire future of the child causing spastic paralysis or idiocy or both. Serious in the new born and in advanced childhood, when unduly prolonged or recurrent and with marked prostration, weak pulse, stupor or cyanosis. A convulsive onset of cerebro-spinal meningitis is a bad omen, likewise those due to an enlarged thymus; on the other hand the convulsive kind of other acute diseases are rarely fatal. Tobler points out the permanent injuries that are liable to become manifest later in life when children have convulsions early. He says that only one-third of the spasmophiles grow up normally, another third are mentally backward and the rest show signs of a substandard nervous system. Twenty per cent of the causes of epilepsy have their origin in so-called simple infantile convulsions (Gowers). In an intensive study of 80 cases,

Collin and Revon showed that the ultimate prognosis is governed by the character of the spasm. Clonic spasms are benign; tonic are of grave import, and are the expression of some actual lesion of the cell. These later develop epilepsy or hemiplegia, or succumb to an attack of meningitis or encephalitis. Therefore, with any tonic phase developing in the course of a convulsive condition, the prognosis should be guarded.

Treatment: This is necessarily that of the casual factor. Attending a case of convulsions one should have in his equipment chloroform, morphin, a solution of chloral hydrate, containing a definite number of grains to the dram, a soft rubber catheter and a hypodermic syringe. For the immediate relief of the convulsion, chloroform is the best sedative and can be used even in the youngest infant. Likewise, the hot mustard bath or preferably the mustard pack, and washing out the bowels with a soap and water enema, not a saline. These discharges should be saved to be examined later for parasites, foreign bodies, etc. After the enema, instill into the lower bowel the solution of chloral hydrate dissolved in an ounce of milk, compressing the buttocks to retain it. Give 4 gr. for 6 mo., 6 gr. for 12 mo., 8 gr. for 2 years. Repeat in one hour if necessary and anyway at intervals of 4 to 8 hours until all tendency to spasms ceases. Chloral should act in 20 minutes. If it fails to do so or if in the beginning, the heart seems weak, I prefer the hypodermic use of morphin, 1/50 to 1/16 gr. according to the age. Other routine methods are; the taking of the temperature, ice to the head; noiseless room; the cleaning out of the intestinal tract as soon as feasible with a cathartic, preferably castor oil; and a low diet for a few days.

Because of its frequency and the good results obtained when properly managed, the treatment of spasmophilia deserves special mention. Prophylactic methods are of the first importance. One should be on the alert for the signs of latent tetany in bottle fed or rachitic babies so as to ward off spasmophilia. This can be accomplished by an early regulation of the diet. Change to breast milk or if this is not possible, reduce the amount of cow's milk to $\frac{1}{2}$ or $\frac{3}{4}$ litre a day in a child 6 to 18 months of age. Give orange juice for the retention of the lime salts; likewise, add cereals and a vegetable soup containing

greens and carrots. The treatment of an existing spasmophilia has to do with (1) the control of the spasm by methods cited above, always avoiding the exciting Na. and K. salts such as salines and the bromides. (2) A persistent, consecutive management of the interval between the attacks in order to maintain a proper equilibrium of the mineral metabolism of the Co. and Mg. salts on the one hand and the Na. and K. salts on the other. This is medical and dietetic. Give Ca. Co₃ or Ca Lactate 15 grs. every 4 hours. The taste can be disguised fairly well with an aromatic ammonia preparation. Phosphorized cod liver oil made up fresh, 1/100 gr. of phosphorus to the dram, should also be given. Dietetically, little or no cow's milk, preferably a whey free mixture such as albumin milk, cereals and the foods referred to under prophylaxis are in order. The alkalies should not be given. Lastly these cases should be under observation till all traces of the diathesis disappear as shown by the electrical reactions.

In conclusion: I wish to emphasize the necessity of an early and definite determination of the true underlying etiological factor and the value of a persistent, consecutive treatment and observation of the convulsive child during the interim of the seizures.

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GONORRHEAL ARTHRITIS*

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CHICAGO

I want to show you this evening a case of gonorrheal arthritis.

Patient had first attack of gonorrheal arthritis in June, 1914. I saw him for the first time at the Alexian Brothers Hospital, where he was under the care of a well known urologist. Joints

*Read before Chicago Urological Society, February, 1920

involved were: right and left wrists, both ankles, both feet—his knees were not affected.

He stayed in the hospital nine weeks, after which he recovered sufficiently to resume some light work, but he never was able to perform as much as before his first infection.

In the spring of 1917, he had a second attack of gonorrheal urethritis. He came to the G. U. dispensary of Rush Medical College, where I was assistant instructor.

His re-infection was immediately followed by acute gonorrheal arthritis. Joints involved were all those mentioned in first attack (1914), but chiefly his wrists, and in addition, both knees, which were very painful and swollen.

Not being able to treat such a case in the dispensary, I requested him to come to my office gratis, because he could not afford hospital care.

Treatment: Injections with silver salts, later prostatic massage, stripping of seminal vesicles; irrigations with K Mn 0 4.

In addition I made use of plenty of sunshine in 1917, by prescribing prolonged sunbaths.

Result: In the fall of 1917 patient was able to do some light work. However, all the joints previously involved were in worse condition than after his first attack in 1914.

At the end of September, 1918, patient returned to my office with third acute gonorrheal urethritis. Condition was very bad, he looked ill; had fever; all joints previously involved were very painful and swollen, chiefly both wrists, ankles and knees.

Next day he was hardly able to move around. The weather being very unfavorable, I advised patient to return to hospital, where he was under the care of a well known urologist.

In addition to other treatment his right knee and left ankle were put in casts during six weeks—his left leg in extension. He left the hospital December 23, 1918, not recovered, but of his own volition. Was not able to stand on his feet; had much pain and had to use crutches.

April 3, 1919, patient came to my office on crutches—seven months after his third attack—asking me if I could do something to relieve pain, etc.

Patient looked ill, was not able to stand on his feet, had lost 44 pounds since September, 1918.

Examination showed gonococci in discharge; both urines very cloudy; prostate and seminal

vesicles in very bad condition; joints very painful and swollen.

Having read an article by Dr. A. T. Horovitz of Cincinnati, about the treatment of acute, sub-acute and chronic gonorrheal infections with proteogens, I asked the patient if he wanted to take a chance. He was willing to try anything, was the answer.

April 4, 1919, I gave 1^{cc} Proteogen N° 11 intramuscularly in the gluteal region. This dose was too large. I should have started with 6 or 8 mms. gradually increasing till full dose (1^{cc}) was given.

Reaction was severe; followed by chills, fever and increased pain in all joints involved. Patient stayed home for five days, after which he came daily to my office, with a few exceptions.

During this treatment patient gradually recovered. His recovery, however, was not uneventful. He had a severe cystitis, was unable to hold his urine, and frequently had increased pain and swelling in the joints involving chiefly his knees, ankles, big toes and left wrist. After each crisis he felt improvement, however. His urine became clearer and clearer. He dispensed with the use of his crutches, used two canes, later one cane, and soon without any.

In July, 1919, he started to do some light work for a few hours a day. In September he got a regular job, earning \$3.50 a day.

During all these months I made use of Proteogen N° 11 exclusively. I did not use any other medicine to relieve symptoms.

After tonsillectomy by Dr. Walter H. Theobald in St. Lukes Hospital, I changed in September to Proteogen N° 2, three times a week.

These infections often become a mixed type. I therefore use No. 2 because it acts chiefly on the streptococcus rheumaticus.

In addition I massaged his prostate and seminal vesicles and applied the electro thermophore to prostate and vesicles.

Patient is now well, all his joints previously involved are normal. He is here to be examined if anybody wishes.

I would have you understand that I am holding no brief for the Proteogens. I am simply stating the cold clinical facts as they have transpired in my practice.

I was able to get excellent results, not only in

this case, but in several other cases of acute, sub-acute and chronic gonorrheal infections.

DISCUSSION

DR. GUSTAV KOLISCHER: The theory of any specificity in any preparations for the sequellæ of local infection was exploded a long time ago. We know it does not make any difference what kind of end or split product is used, it will occasionally in a number of cases influence the so-called gonorrheal arthritis or streptococcic infection very favorably.

Joe Miller made an extensive series of experiments at the Cook County Hospital and reported very good results from the injection of Proteogen. It is absolutely immaterial whether you inject milk, an enzyme, the white of an egg, or bacterins. Any time you introduce into the system heterogenous albumen, especially that which contains any split or end products, you get a certain reaction, and this intense reaction will lead to local improvement. But there is absolutely no good reason for thinking that there is anything specific in these preparations.

DIFFICULTIES AND FAILURES IN THE SLUDER TONSIL OPERATION*

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Were it not a fact that a fair percentage of the laryngologist's work consists in tonsil enucleation, I would feel like apologizing for presenting a paper such as this one, as there is little real surgical science in it, but a good many practical points.

The Sluder technic, having been fully described many times by Sluder and others, mentions particularly the application of the method in routine work, but fails to mention the reasons for difficulties and failures and their correction, except in a few instances. What is meant here by the Sluder method of tonsil enucleation are those points in the operation which the author brought out several years ago, and which I shall mention briefly: (1) the Sluder tonsillotome; (2) the jaw as a point of resistance; (3) forcing the tonsil through the ring with the aid of the index finger; (4) separating the tonsil from its bed. The author of the method lays down certain exact rules for the performance of the operation and if followed in the main, these rules will yield excellent results.

Before taking up the subject as the title suggests, I will state that, in my opinion, after many

years of tonsil enucleation by the Sluder method, I consider the operation the quickest, safest and most thorough of any yet devised. It is owing to criticism of the technic that I feel that a short paper upon the difficulties and failures, as I have found them, might be of some advantage to those who are less persistent or who lack initiative when abnormal cases present themselves for operation.

In an average of 100 cases, the tonsils can be enucleated successfully to the extent of 97 per cent. For the remaining 3 per cent, one less familiar with the technic might advocate the dissection method, but with operators who are thoroughly familiar with the technic even these tonsils can be removed satisfactorily. In the foregoing abnormal cases, I do not mean to say that the most skillful operator can remove the tonsil intact at the first attempt, since it frequently requires two or three efforts before the fossa is clean. The difficulties presented in some cases are due to four causes: (1) variations of the inferior maxilla and its alveolar eminence; (2) the Sluder tonsillotome as found on the market; (3) abnormal tonsils when considered in the anatomical sense; (4) the operator lacking the proper skill in manipulating the instrument.

THE SLUDER TONSILLOTOME

The original Sluder tonsillotome, in my experience, is the best, and no modification that I have seen has any particular advantage over it.

The reasons why modifications seem necessary for some, are that many operators have not the strength in their hands to do good work. This was made more difficult by the teaching of Sluder, who recommended a dull blade.

After my first few cases of enucleation, I decided that dull-bladed tonsillotome was wrong, since it did not lessen hemorrhage enough to offset the advantage of a much keener edged instrument. I do not advocate a razor blade tonsillotome but rather a compromise between a very sharp edge and a dull one.

Another reason for difficulty in the operation from the standpoint of an imperfect instrument, is that most of the instruments on the market have a thick blade and are not ground thin enough at the knife-like end; as a result, greater force is necessary. Another minor consideration in regard to the tonsillotome is the sliding blade,

*Read before the American Academy of Ophthalmology and Oto-laryngology at Cleveland, Ohio, October, 1919.

which must be loose fitting; just tight enough to prevent the blade from sliding home of its own weight when held in a vertical position. I think many operators who have trouble in not having strength enough in their hands, could do much better work if the points mentioned in regard to the instrument were taken into consideration. The most frequent cause of failure is not getting the tonsil intact; and the point that Sluder so forcibly emphasizes, is holding the handle almost at a right angle to the jaw, after bringing the tonsil upward and forward before pushing the blade home.

ANATOMICAL DEFECTS IN THE ANGLE OF THE INFERIOR MAXILLA

The inferior maxilla is frequently the cause of imperfect results in tonsil operations, owing to anatomical deviations from the normal. The most difficult type of jaw for enucleation of the tonsil is the one in which the jaw has a small alveolar eminence or where it is altogether absent. These inferior maxillas are almost in a straight line with the neck. I do not know of any reason why the operation should present such difficulties except on account of the alveolar eminence being smaller or absent. This prevents the instrument from being held in a firm position, hence the difficulty of keeping it at the correct angle when pushing the tonsil through the ring. In order to overcome this, the tonsil must be dislocated much farther forward.

In jaws of the foregoing type with elongated tonsils, which are most difficult for a good enucleation, the tonsil should be dislocated more forward, and more horizontally; the teeth interfere with any outward movement. In adults, the large tonsillotome should be used because it will insure a more perfect result, although the small instrument will suffice for the majority of cases. It is in these cases that it is often necessary to make a second effort in order to get a perfect result.

To avoid a failure, I would advise that in cases where this type of jaw is recognized, palpation of the region of the alveolar eminence and peritonsillar tissue be made before operating. Another type of anatomical anomaly encountered, is an elongated styloid process of the temporal bone. This condition, while infrequent, does

occur, and recently was a cause for failure in one of my cases.

Should the tonsil be difficult of dislocation with the instrument, it would be a good plan to discontinue the enucleation; and instead palpate the tonsil and peritonsillar region and finish the operation by the dissection method should the elongated styloid process be discovered.

DEFORMITY OF HARD PALATE

This condition is so rare that it is scarcely worth while mentioning, but the fact that I had this sort of case and presented it, after the enucleation of the tonsils, to the Ear, Nose and Throat section of the St. Louis Medical Society, proved that even here good results can be obtained, and is my reason for calling your attention to it. The difficulty in such cases is that the hard palate is apparently longer and lower than the normal, and this allows the soft palate to lie at a lower level.

ABNORMAL TONSILS WHEN CONSIDERED IN THE ANATOMICAL SENSE THE ELONGATED TONSIL

This class of tonsils mentioned previously in relation to the anomaly of the inferior maxilla, is frequently found with the normal jaw; and while not as difficult of removal as when found in the abnormal jaw, is much more difficult to remove than the average tonsil, owing to the fact that it is closely attached to the pillar, is flat and usually firmly imbedded. Failure here is usually caused by the operator using the small-sized instrument and because not enough force is used in order to dislocate the tonsil. In using the small-sized instrument, especially in adults, one almost invariably finds that one has failed to get the lower pole, and this necessitates a second attempt, though this is easily executed.

THE INFILTRATED TONSIL

In these cases, which result usually from repeated attacks of tonsillar and peritonsillar inflammation, one of the main causes for failure is that many operators do not wait long enough after an acute attack for resolution to occur. I think six weeks should elapse before attempting the operation, and generally at that time the tonsils can easily be removed. Occasionally one encounters cases in which there have been many attacks of tonsillar and peritonsillar inflammation at frequent intervals; even in case resolu-

tion does not occur, one is obliged at times to operate. In these cases, an enormous infiltrate, especially involving the anterior peritonsillar tissue, is found, which feels almost as hard as cartilage. These cases are by far most difficult for the Sluder method, but despite obstacles, the operator can remove the tonsil successfully if he uses great force and slowly massages the tonsil through the fenestra with his thumb.

SUBMERGED TONSIL WITH THICK MUSCULAR PILLARS

This form of tonsil is often difficult to remove at the first attempt and is made especially so when operating under local anesthesia. Owing to the usually small-sized tonsil, to the dense adhesions and muscular pillars, much force is necessary to dislocate the tonsil. After dislocation, the tonsil should be fed through the fenestra slowly, by gentle pressure of the thumb instead of the index finger. The thumb yields greater pressure, and the whole tonsil can be pushed through while the handle of the instrument is firmly held.

ATROPHIED TONSIL

Here we find a small tonsil separated from the anterior pillar for quite a distance and also a short distance from the posterior pillar. In these atrophied tonsils which are often badly diseased, many operators class them for the dissection method in preference to the Sluder technic, because of the danger of buttonholing the anterior pillar. These tonsils are just as easy to remove as any others, provided one uses a good deal of force, quickly applied so as to dislocate, and by holding the handle of the instrument firmly at a right angle; then by gentle, constant pressure with the thumb or index finger, the blade is pushed home and the tonsil comes away with its capsule. There is one kind of tonsil I shall mention, the Lobulated Tonsil, although not frequent, and in which, if the operator is not careful, the operation will result in failure. Failure here is due to the operator examining the enucleated tonsil instead of the tonsillar fossa. In this type of case, one finds that he gets an almost perfect tonsil except that a very small section is missing, and if the section is not removed, at least one-half or even one-third of the original mass is still in situ.

EXCAVATED OR WORM-EATEN TONSIL

This type is not difficult of removal if the edges of the tonsils are not very adherent, but in case they are firm and adherent, so that it is almost impossible to make out the line of attachment to the pillar, removal is difficult. This difficulty can be overcome by separating the adhesions of the anterior and posterior pillars, although I have very rarely found it necessary to dissect the pillars from the tonsil.

There may be other difficulties in working with the Sluder instrument, but in the above paragraphs I present the results for comparison and discussion.

219-223 Metropolitan Bldg., St. Louis, Mo.

DISCUSSION

DR. T. E. CARMODY, Denver: I have been using the Sluder technic for a number of years. I don't use the molar eminence to force the tonsil through. I always use the index finger. I also saw Johnston use the thumb and I sometimes use that. In using the index finger you can use more of the plica than when using the molar eminence. You can draw the tonsil forward and not only get the edge of your pillar but the plica. Black says he does not use a dull blade. I have always used the dull blade except in my first few cases. He speaks of turning the instrument at right angles to the jaw because you can always get the lower lobe. It is also easy to force the rim of the instrument between the lower and middle lobe because there is often a fissure between them. You can also find one between the upper and middle lobe, which is frequent in the rabbit. You sometimes miss the upper lobe by using too small an instrument.

As. Dr. Black says, we sometimes fall down after a great many years of experience. Dr. Black speaks of the elongated styloid process: I know nothing about it. I have never run against one. He also speaks of waiting long enough after an acute inflammation; that is the principle we should go on and it doesn't make any difference what method we use. In the case where we have an inflammation, it will take much longer in healing and there is a possibility of spreading the infection from the second tonsil to the first tonsillar fossa, where the tonsil has been removed.

In taking them out too early, recovery is long delayed. The peritonsillar infiltrate which we have and which may remain for some weeks, makes it very difficult to force the tonsil through. In the so-called worm tonsil you may have difficulty in forcing through the whole of it, because it is the so-called rotten tonsil where our technic is poor. It is because a certain amount of it is soft and has granulation tissue which you may leave behind. I have had very little difficulty since I have mastered

the technic, but once in a while I fail. A thing I find of great value following tonsillectomy, no matter what methods you use, is blowing orthoform into the tonsil fossa after removal. It does away with pain and it seems to hurry resolution. In one case I had a membrane which looked like a diphtheritic membrane. In this case I gave ten thousand units of antitoxin. The report was negative for diphtheria, the next day.

DR. WM. S. TOMLIN, Indianapolis, Ind.: I want to add just a word to this extensive discussion, from some personal experiences and observations. I wish first to call attention to the technic in cases where we have a more or less recent peritonsillar abscess or where by examination or palpation we feel sure there is a peritonsillar focus of infection. In those cases I find it highly advantageous to make a small incision through the plica and then, when your pressure is applied, mop up the tissues in order that you may not get an inspiration of this infectious discharge. The extra lymphoid tissue outside of the tonsil is not a myth. It not only grows at the base of the tonsil but you will find it inside the pillars and yet outside the capsule, and whether you have used the snare or the Sluder, it is a useful thing to inspect carefully and see that there is none of this tissue left. Remember that under that lymphoid tissue there has been a focus of infection and your patient will not get the results you expected. I have frequently observed that onlookers who are not favorably inclined to the Sluder are likely to criticise if you fail to remove the whole tonsil in one movement. At the same time, if you see this man operate with his snare, he not infrequently goes back with his snare to get another piece of his tonsil tissue and doesn't charge it up to the operation.

Another thing, there is on the market an exceedingly useful instrument, a sharp curved sponge holder. Remove your left tonsil first and with the sponge in this curved holder let it slip around the cheek and hold the sponge in that fossa and the assistant and the sponge are out of the way.

One point about the bleeding, we ran a series of cases with dissection and snare and modified Sluder, they were all done by students but under supervision. The bleeding was in favor of the Sluder and I think this was due to the fact that it took less time.

DR. J. A. STUCKY, Lexington, Ky.: Comparisons are odious. We have been comparing the Sluder operation with two or three others. It doesn't make any difference what method you use, the one thing I want to call attention to mentioned by the essayist is, do not remove your tonsils if your patient has one or more degrees of temperature. I have been taking tonsils out for 25 or 30 years. You are going to meet a "Waterloo" sometime, and one of the saddest things you will come up against will be a post-operative cellulitis without any cause except that there was a little localized inflammation in the tonsil at the time you operated, and your patient's tempera-

ture was one hundred. I make it a rule in my private practice and my clinical work, if the child has a temperature of one hundred, to not take the tonsil out until it subsides.

DR. G. W. SPOHN, Elkhart, Ind.: At every meeting of Otto-Laryngology there is a paper on "The Sluder Method."

At least 75 per cent of the laryngologists use some other method (not the Sluder) for the enucleation of tonsils. If the "Sluder method" is the desideratum sought, then it needs no boosting.

Briefly, the tonsil is a gland that can be shelled out the same as any other lymphatic gland. Separated from the pillars, it can be shelled out the same as a hickory nut is shelled out of the husks. The use of the Sluder instrument, or any other sharp-cutting instrument, will cause much hemorrhage.

Will the essayist answer whether he has more or less hemorrhage with the use of the suction apparatus?

The painting of the tonsil region after operation with a 25 per cent solution of the Tinct. of Iodin will act as a styptic and prevent infection.

DR. IRVING W. VOORHEES, New York City: The last word will never be said concerning tonsils. About a week ago a general practitioner called on me and said he would be glad to have me do his tonsil work, but he did not want tonsillectomies. "I have charge of a number of industrial concerns," he said. "We have about seventeen thousand cases a year, and during the 'flu' epidemic last year we kept careful tab on all the cases having influenza which developed pneumonia afterwards. We found that in all cases of pneumonia following influenza the patients had had a complete tonsillectomy. We believe that tonsillectomy lessens the patient's resistance and the infection is more apt to reach the lung. Therefore, when we send you a case, do a simple tonsillotomy." I did not know what to say to him, because rhinologists are agreed upon complete enucleation of the tonsils and we have learned to believe that it is the only safe operation. Should we pay any attention to this general practitioner's observations or not?

In reference to technic, mine is similar to Dr. Black's and some of the other gentlemen here, that is, I push the tonsils through the ring with the index finger. You should have short finger nails or you may buttonhole the anterior pillar. In some cases there is almost a dead space at the superior pole of tonsil. Sometimes, with a little too much pressure there, you get the anterior pillar. Usually amputation of the anterior pillar is due to the Sluder ring being too large. We should first attempt to judge the size of the tonsil we are going to remove and use a ring somewhat smaller than the tonsil itself. If you are careful to put your tonsillotome across the mouth, get the tongue out of the way and use suction so you have a clean field, then it is possible to push the tonsil through the ring and strip it out with your

finger. I prefer a dull blade. As to the disappointment on the following day in finding some of the tonsil still present, I think it is unfair to many operators to say that they have not done a good tonsil operation. Many of us have thought we had removed a tonsil but this lingual tonsil at the inferior pole has worked up in position to fill up the cavity made by the enucleation. I am not sure that we must necessarily take out the lymphoid tissue at the base of the tongue, since no actual "tonsillitis" can arise from an infection of this tissue. One ought to retract the pillars with a hook and inspect the tonsillar fossae thoroughly before returning the patient to his bed.

DR. SIDNEY ISRAEL, Houston, Texas: So far as the amount of blood lost is concerned, when compared with tonsillectomy by dissection, you will agree that it is greater than when the La Force, Beck or Sluder instrument is used. On the other hand, one thing I have experienced under local anesthesia, particularly, is that there is a certain amount of shrinkage from the astringent effects of the injection of novocain and adrenalin in the lower pole of the tonsil; whether you call it tonsil, or lymph tissue, there is a good deal of shrinkage. I have noticed this tissue below the tonsil before the tonsil has been anesthetized and during the removal of the tonsil in capsule. The next day, or as soon as the shrinking of the tissues from the novocain and the adrenalin has disappeared, on examining the throat you notice a piece of lymph tissue in the base of the fossa when you thought you had removed it all. There, in my opinion, is one of the largest obstacles to overcome with any ring instrument and it has been therefore necessary in our work to make a special effort to remove that piece of lymphoid tissue at the base of the tongue, after the tonsil has been removed in order to have as clean and smooth an appearing fossa as possible.

DR. H. V. DUTROW, Dayton, O.; No one, I believe was more prejudiced against the Sluder method than I several years ago. I had used the combined method, namely, sharp dissection and snare, with a great deal of satisfaction. I think I tried out every new ring instrument that came on the market. I had the original Sluder instrument, but could not force it home with my thumb. I also used the Braun instrument, and one devised by Dr. Beck, and one by Drs. Vail and Lamb of Cincinnati. At the 1917 meeting of the American Medical Association, held at Chicago, I saw the Sluder instrument with the lever on the handle, which I felt would make up my deficiency in the use of the original Sluder instrument. I had Mueller send me the two sizes of this instrument, and I was able to use them with a great deal of satisfaction. I think it is like every other good thing, it has its limitations. I think it by far the best instrument on the market for children and young adults. There is considerable skill necessary in acquiring the technic to use this instrument.

In a great many cases we have peculiarities in the shape of the lower jaw and the shape and position of the tonsil and the manner in which it is held be-

tween the pillars. You have to find your alveolar eminence or some other prominent place to afford something to press against in order to cause the tonsil to evert and force it through the ring of the instrument. No matter how careful a man's technic with the snare may be, especially in children, he will now and then get out a section of the posterior pillar resulting in a deformed throat. With the Sluder instrument you do not get into the muscle fibres of the superior constrictor. You look into your fossa and find that it is smooth and the fibres of the aponeurosis are intact. The snare will cut through everything that gets in the wire loop. Personally I think the day is coming, and that day is not far distant, when the snare will have a very limited place in tonsil surgery. It will be either the Sluder or sharp dissection entirely. If you cannot use the Sluder instrument, learn to operate with a knife or scissors, and possibly the snare in snaring off the inferior lobe.

DR. E. M. SEYDELL, Wichita, Kan.; I wish to mention that piece of tonsil tissue, termed by some the lingual lobe, which is not removed by the Sluder instrument. We have frequently seen severe inflammations of this tissue, when it has been left, and we now excise the lingual lobe after removing the tonsil proper, a curved knife or scissor being used for this purpose. We found great danger in injuring the anterior pillar with a resulting adhesion to the tongue, where the snare alone was used for this part of the operation.

DR. W. D. BLACK (closing discussion): I thank you gentlemen for the discussion, but do not believe I can answer all in the time allotted to me.

Dr. Carmody spoke about not utilizing the alveolar eminence at the inner angle of the jaw. I frequently do not use it myself, but I believe those nearing the operation should follow the steps laid down by Dr. Sluder, the author of the method. After one becomes proficient, he can then modify it to suit his own ideas. You cannot follow the Sluder technic and not use the eminence. In my technic, I often do not utilize the alveolar eminence after dislocating the tonsil. The instrument should be brought up at a right angle and held there.

Dr. Carmody spoke of not being able in a few instances to get out the whole tonsil with the Sluder instrument. Of course, there are some cases that are very difficult, as I mentioned in my paper, and other cases where there is some anatomic anomaly, such as a deformed hard palate or an elongated styloid process. In these cases, you cannot use the ring instrument but will have to resort to the scissors or your finger.

Now, there is one point I would like to bring before you and that is the position of the patient. Some have the head hanging over the table and some have the patient in a sitting posture. Of course, with such positions, it is almost impossible to do a good operation. In my work, I have the patient's head on a level with the body, with the chin extended a little. Another cause of failure is that the average table in the operating room is too high and too broad. Owing

to the height of the table, one cannot get the correct position to enucleate the second tonsil satisfactorily. This can be obviated by changing to the opposite side of the table and work from there.

In gas anesthesia, there is necessity for great speed and I would not recommend it for the beginner. Ether is much better. Someone in the discussion said he had 100 per cent perfect results with a snare. This percentage to me is unbelievable, because even the best operators only claim 98 per cent, and I doubt very much whether these 98 per cent men use the snare method.

Of course, at some future time, we may be able to get 100 per cent perfect results. So far, we are close to it, but it will probably be some new technic or new instrument and at a time when we have no anatomic anomalies. I believe it would be a good idea for most snare operators to learn the Sluder technic thoroughly and when they fail to get the tonsil intact with a snare, to remove the small pieces with the Sluder tonsillotome. With this instrument there is no reason why one should not get out the smallest possible piece after he becomes proficient with its use.

Another gentleman in discussion spoke of the lymphoid tissue at the base of the tonsil as being the lower pole. Of course, this is not the lower pole. It is a separate structure, lymphoid in character, that grows from the side of the tongue, has no crypts and does not get infected, consequently it is not necessary to remove it unless it interferes from the mechanical standpoint or reflexly. Someone mentioned that they would not use a sharp-bladed instrument. I mentioned in my paper that I do not use a razor blade or a dull blade, but an intermediate blade, so to speak. We know that by using a sharp knife, the blood vessels are more apt to contract quickly and consequently there will be less hemorrhage. Even in using a sharp-bladed instrument with this method, I do not see any danger, as there is nothing of importance to cut, if the operation is done correctly. There is absolutely no danger of injuring the internal carotid artery with this method. I have never had to sew a pillar owing to severe hemorrhage, but I have had some brisk bleeding occasionally, which can usually be stopped by pressure on tonsil hemostats. Of course, should these fail, I would advise sewing the pillar.

I thank the gentlemen for the discussion of my paper.

ADENO-CARCINOMA OF THE OVARY IN A FIVE YEAR OLD GIRL*

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EAST ST. LOUIS, ILL.

The adeno-carcinoma is a malignant tumor, probably always secondary to an adenoma; which itself is an epithelial tumor of a secreting type

and the most closely allied of all benign tumors, to the carcinoma.

An adenoma probably on the breaking down or proliferation of tissue forms this conglomerate tissue or mixed tumor adeno-carcinoma. But, be that as it may, we shall leave that part tonight to the pathologist and bacteriologist, the bees of the medical profession.

Being a tumor of glandular structure, its favorite site is naturally the stomach, especially the pyloric end; also the ovary, breast, prostate, uterus and pancreas.

It is found in three forms: Simple, Medullary and Scirrhus.

If Simple, it is composed mostly of glandular tissue, i. e., the proportion of stroma to cells is as you usually find in most glands; if Medullary the cells are in excess and the tumor is soft; if Scirrhus the fibrous stroma is so developed that the tumor is very hard and the epithelial cells are few.

The tumor shown here is a mixed adeno-carcinoma, or one showing these different tissues in various proportions in different parts of the tumor.

Although we are somewhat averse to the criticism of nature, nevertheless when we are confronted with a 5 year old girl, who is menstruating and who has a mammary gland development that would ordinarily be found in one thrice that age, we at once feel that some pathological condition is present, that somewhere there is error.

While adeno-carcinoma is not at all an uncommon malady past middle age, yet this tumorous growth in a mere child of five years, who otherwise seems apparently healthy, is indeed rare.

Just when this tumor started is merely guess work now. No doubt, however, it is due to some misplaced epithelial cells in fetal life, as at the age of two this child already manifested some pathological derangement, which farther history shows, caused more or less continued disturbance until date of operation.

Surely early in life it started as a small papillary cystic type, which now showed degeneration of tissue and hemorrhage, and is almost a solid type of new growth of epithelium into connective tissue; which is additional evidence of malignancy, i. e., carcinomatous transformation and as it is microscopically recognized as: Adeno-carcinoma.

*Read before the Southern Illinois Medical Society, November, 1919.

Pfaundler and Schlossman: (p. 342) "Adenoma is the most important epithelial tumor in childhood." (p. 247) "Carcinoma need hardly be considered in children."

Lexler says: "The adenoma are benign poly-poid growths mostly of loose connective tissue."

Keen, VI, 131: "Continued observation on malignant ovarian tumors convinces me, that primary cancer or malignant epithelial tumor of the ovary has not been demonstrated."

Keen, I, 840: "Primary carcinoma of the ovary is certainly rare, but common secondarily, where it is primarily found in the breast, gastrointestinal tract, gall-bladder, etc., it is then usually bilateral." Keen goes on farther and states, that where one ovary is involved and the other apparently normal, usually before long it also becomes involved and has to be removed at a later operation.

D. C.—born July 16, 191b, the oldest child of a family of three.

Family history negative as to syphilis and tuberculosis.

The child had bronchopneumonia at two years and whooping cough at four. At two years of age the child suddenly complained of severe abdominal pain in the right side, simulating appendiceal colic.

The following day she menstruated, which continued for five or six days. The acute pain returned at irregular intervals and at times rather severe during the following three weeks, after which she was apparently well.

The child during the next two and one-half years would often during play, suddenly stop and run to her mother, complaining of severe abdominal pain, which on lying down would almost always be relieved at once.

August 4, 1919, was called to see the child; who had been suffering severely for six hours. Menstruating. Temp. 99.2, pulse 132. Abdomen distended, more so on right side and extremely tender to touch. On palpation found a rather distinctly outlined, movable, hard tumor mass to the right of the umbilicus.

After further examination I noted markedly enlarged mammary glands. Also the child had put on an unusual growth the past three months; such as is commonly noted about puberty.

I told the mother it was strictly an operative case; however to my amazement, when I returned the following day; I found my little patient in the yard playing with the other children, the mother saying, "It was only one of her regular spells, just a little unusually severe."

Temp. now 100.4, pulse 118, and suffering little inconvenience. On placing the child in the reclining position, again I could plainly outline movable mass.

The menstrual flow continued almost daily until the

consent for operation, September 13, 1919. * * *

The tumor was removed through a three-inch incision, in the median line, below the umbilicus. After the child was anesthetized the tumor could easily be outlined and moved to any part of the abdomen; however its favorite site was to the right of the umbilicus.

Outside of a very small omental adhesion, it had no other attachment, except its pedicle.

Although no positive diagnosis was made previous to the operation, we were however satisfied that there was right ovarian involvement, as we had:

- 1 site of tumor on right side
- 2 menstruation (vicarious)
- 3 markedly increased mammary development
- 4 unusual growth as is otherwise noted at puberty only.

The uterus and left ovary were apparently normal, as were the other abdominal organs.

This child made an uneventful recovery thus far and in three weeks was about playing with the other children.

Last but not least, the one thing of most interest in this case is the prognosis. According to statistics, unfavorable, not forgetting our blood and lymph channels; yet nevertheless, with a tumor so completely encapsulated without any adhesions, save a minor one to the omentum; does not the prognosis seem favorable? Time only can tell.

PNEUMOPERITONEUM AND X-RAY EXAMINATIONS.*

B. H. ORNDORFF, A. M., M. D.

CHICAGO.

In this article, I wish to discuss briefly our experience with the technique used for producing pneumoperitoneum one hundred times and to tell some of the findings noted by x-ray examination in these cases. In addition, I wish to present some illustrations showing some particular phase of technique or pathology whose detection is facilitated by the use of this method of diagnosis.

Pneumoperitoneum indicates the presence of a gaseous medium in the peritoneal cavity.

After producing pneumoperitoneum on animals by various methods, I decided the safety of the procedure was sufficient to warrant its use for diagnosis in the human. Our first cases were given small amounts of air, but little diagnostic possibilities were observed. After the third case a modification of our technique added very

*Read before the Chicago Medical Society, Nov. 5, 1919.

greatly to the possibilities of obtaining valuable diagnostic data and with the encouragement of not having experienced untoward reaction in the previous cases, we used sufficient amount of air to render the work successful. While our first case was attempted in January, 1919, our first real successful case was not done until June. My first knowledge of this work having been done, other than in our own laboratory, for diagnostic purposes, was early in September. Since that time, I have learned that foreign literature indicates the work was done in Europe for more than ten years and that the first published report of work done in America was that of Drs. Stewart and Stein.

TECHNIQUE.

The apparatus which I wish to describe was assembled in our laboratory for this work and I will endeavor to give a brief but detailed description. It consists of a tank of gas (oxygen), a water bottle indicator, a pressure gauge, rubber tubing with cotton filter, needle, etc., as shown in the illustration. It will be observed when the oxygen flows from the tank, it will pass through the water bottle indicator and then through the cotton filter and finally through the needle. The pressure gauge is set in the circuit so that it records the pressure existing in the line between the needle and oxygen tank. The purpose of the gauge is to indicate any variation of pressure that would occur when the flow of gas from the needle is obstructed. The principal purpose of the water bottle indicator is to determine the rate of the flow of oxygen. The spinal puncture needle in common use was selected for this work. The patient is placed on an ordinary hospital cart, facing upward and before an upright fluorescent screen apparatus where examinations may be conducted with the x-ray passing laterally through the abdomen on a horizontal plane. The site for inserting the needle is selected by palpating the abdomen in order to find an area free from induration and other evidence of pathology in the abdominal wall. It is also well to select an area under which there seems to be normal air filled loops of intestines. The site is prepared by applying a solution of 50 per cent. Lysol and Glycerine by means of a wooden applicator wrapped with a small amount of cotton. Some pressure is added to the applicator, which facilitates the antiseptic preparation of the

field and produces some local anesthesia. A local anesthetic is now introduced at the point where the pressure was made. With the apparatus all assembled, the pneumoperitoneum needle is now introduced through the skin and carefully down through the various layers of the abdominal wall. The principal points of resistance noted after passing through the skin is the deep fascia and finally the peritoneum. After a little experience one learns to note quite certainly when the needle passes into the peritoneal cavity. The gas is now allowed to flow carefully from the tank. The water bottle indicates the rapidity of flow desired. The pressure gauge will show whether the oxygen is flowing from the needle unobstructed. If the pressure continues to rise, it is certain that the needle is still in the tissues of the abdominal wall or that the flow is obstructed by an abdominal viscus, etc. The flow at the tank may be stopped and the needle turned or its angle changed until the pressure in the line is seen to be released. Then, the oxygen is permitted to flow from the tank again and when the rate noted in the indicator and the pressure gauge remains uniform, it is probable that the gas is flowing into the peritoneal cavity with the needle unobstructed. As soon as a few ounces of gas has entered the peritoneum the x-ray observations will show its presence as a long narrow line beneath the anterior abdominal wall and extending up over the surface of the liver, which is easily recognized. The gas is allowed to flow slowly until the anterior abdominal wall is lifted away from the abdominal viscera for a distance of five to ten centimeters. The needle may now be withdrawn and the site of puncture covered again with the antiseptic solution and applicator. The patient is now placed in various positions and observed by the x-rays. It will be noted that the viscera surrounded by the gaseous media show very clear outlines on the screen. The position of the patient should be such as to permit observation of the organ from different angles in order that all its surfaces may be observed. The normal mobility of the organ may be ascertained and in many instances it may be palpated by external, vaginal or rectal palpation. X-ray films may be made in order to have permanent record of the findings appearing on the screen.

SUMMARY.

From our experience with the technique described and in consideration of the illustrations, I feel the following summary is warranted:

1. Pneumoperitoneum is not difficult to produce and while a few important points in technique are essential, they require no special training other than the training of a physician.

2. The size, position, mobility, relative density, variations in contour, contents and cavities of the abdominal viscera can be visualized and studied in a manner which opens to physicians entirely new possibilities.

3. Findings are encountered which seem to invite the conclusion that the basis for possibly new clinical disease entities have been established.

4. Peritoneal adhesions between abdominal viscera and the anterior abdominal wall are demonstrated without difficulty. The importance of the functional pathology originating from this source will be studied carefully by the workers in this branch of medicine.

5. Fixation of the gastrocolic omentum to the anterior abdominal wall is frequently accompanied by the symptom of vomiting with or without nausea. In seven cases the symptom was relieved by pneumoperitoneum and returned when the gas was absorbed.

6. Perihepatitis, perisplenitis and pericolitis with fixation by peritoneal adhesions to adjoining viscera offer new phases for the study of functional pathology of these organs.

7. After pneumoperitoneum has been produced aid in diagnosis is offered by filling of the colon, stomach, intestines, bladder, kidney, etc., with oxygen. Variation in the diameter of the walls of the hollow viscera with changes in relative density and the presence of new growths may be detected.

8. Postoperative peritoneal adhesions to the anterior abdominal wall may be prevented by keeping the peritoneal cavity distended with oxygen for a few days following operative procedures.

9. Pneumoperitoneum produced with oxygen probably possesses therapeutic virtue in peritoneal tuberculosis.

In concluding this paper, I wish to express my sincere thanks for the helpful co-operation received from Drs. O. M. Walter, C. C. Rogers, A. E. Stewart and many of the attending physicians to the Frances Willard Hospital.

25 E. Washington Street.

Special Article

PROGRESS OF SANITATION, MEDICINE AND SURGERY IN THE LAST 70 YEARS

The following is a partial record of achievements in Medicine, Surgery and Sanitation during the last 70 years:

General:

Lister's employment of carbolic acid in anti-septic surgery, October 15, 1867.

Esmarch's method of bloodless surgery, December 1, 1873.

Koch's discovery of the *Bacillus tuberculosis*, May 20, 1882.

Prophylactic treatment of rabies by injections of virus, August 19, 1882.

Koch's discovery of the comma bacillus of cholera.

Miller's employment of cocaine in eye surgery, Oct. 11, 1884. The first reports of the use of cocaine in this country were made by C. R. Agnew, W. O. Moore, and J. L. Minor in the issue of the *Medical Record* of October 18, 1884.

Intubation of the larynx, February 21, 1885.

Koch's announcement of the preparation of tuberculin reported in the cabled proceedings of the Berlin International Congress, August 9, 1890.

Discovery and experimental use of tetanus and diphtheria antitoxins announced in a special telegram on December 6, 1890.

Finlay's theory of the relation of mosquitoes to the spread of yellow-fever, Nov. 24, 1894; confirmation of this theory by the U. S. Army Commission, November 3, 1900.

Relation of mosquitoes to the spread of malaria, Sept. 21, 1895.

Roentgen's discovery of the X-rays, April, 1895, an X-ray plate of the hand published Feb. 15, 1896.

Cosmetic employment of paraffin injections, Apr. 13, 1901.

Mme. Curie's discovery of radium, May 3, 1902.

Discovery of the dysentery bacillus as a cause of the summer diarrhea of infants in this country, Sept. 13, 1902.

Wassermann reaction described June 2, 1906.

First report of American cases in which salvarsan was given in syphilis, made by M. S. Kakels, Sept. 24, 1910.

Histology and Embryology are now on the curriculum of the freshmen and sophomore years of all medical colleges.

Physiology and chemistry have become allied sciences rather than independent fields of investigation.

Fresh air treatment for tuberculosis.

Serotherapy.

Apparatus for electro-endoscopic examination.

Countless new surgical instruments.
 Endovenous infusion.
 Endocrine medication.
 Specific Fields:

Surgery:

Steam sterilization in surgery introduced by V. Bergmann, 1886.

Surgical asepsis in surgery introduced by V. Bergmann, 1891.

Michel's clamp and other devices for the closure of operation wounds.

Esmarch's artificial ischemia, introduced 1873, has now given way to

Spencer's clip forceps introduced by Sir Spencer Wells.

Bier's hyperemia or passive congestion for benefiting diseased tissue through prolonged contact with oxygenated arterial blood.

Local anesthesia by means of an ether spray, 1866.

Infiltration anesthesia introduced by Schleich, 1894.

Spinal anesthesia and local medication of the cord discovered by J. Leonard Corning, America, 1885.

First paper on lumbar puncture and study of Cerebro-spinal fluid by Quinckle, 1891.

G. W. Crile's combination of different drugs on the basis of his experimental research into surgical shock reported in a Cartwright prize essay, 1897.

Advances in surgery of brain and cord; of cancer of the breast; of the stomach and intestinal tract, notably of appendix and rectum; of the liver and gall-bladder; the pancreas; the thyroid gland; the senile prostate.

First successful cholecystotomy, performed by L. T. Boggs of Indianapolis in 1867.

First excision of gall bladder by Langenbuch, 1882.

First surgical intervention for cancer of the rectum by Krasse in 1885.

Introduction of exploratory laparotomy and Murphy button.

Intubation of stomach by Kussmaul, 1867.

First successful excision of the pylorus by Billroth, 1878.

Gastroenterostomy introduced by Woelfler in 1884.

Removal of large portions of colon by Sir W. Arbuthnot Lane of England.

"Murphy drop" (in abdominal operations).

Intratracheal insufflation devised by S. J. Meltzer of the Rockefeller Institute, keeps air in lungs at same pressure as outside atmosphere so that chest can be kept open without any danger of collapse.

Brawer proposed an over-pressure apparatus for the prevention of the dangers and sequelae of pneumothorax.

Sauerbach's pneumatic cabinet, an underpressure contrivance introduced in 1904.

Intubation of larynx by O'Dwyer, 1885.

Fell-O'Dwyer method of few years later.

Direct laryngoscopy introduced by Kirstein in 1894.

Direct bronchoscopy introduced by Killian, 1898.

Artificial respiration described by Matas, 1902.

Anchorage of floating kidney.

Radiographic recognition and extraction of calculi.

Drainage of renal abscess; nephrectomy; intraventions upon the ureters.

First successful removal of renal calculus by Ingalls (Boston), Nov. 8, 1873.

Extirpation of a diseased kidney first performed by Simon, 1869.

First nephropexy by Hahn in 1881.

Introduction of a cystoscope by Nitze, 1889.

Elevation of Pelvis in vesical operations by Trendelenburg.

Goiter surgery has reached high state of development through work of Kocher, Mayo, Payr.

First operation on aneurysms, 1868, by Meyer, Copenhagen, Denmark.

Improved method for harelip and cleft palate.

Paraffin injections first employed by Gersuny in 1900.

Orthopedic Surgery:

Modern transplantation methods of bones and joints (Koenig, Lexer and Albee).

Transplantation of skin, Thiersch, early, and Davis later.

Plaster of paris bandages first introduced by Mathysen, Belgian army surgeon, who died in 1878.

Improved and popularized by Hubert von de Loo who survived him 5 years. Sayne's gypsum corset for spinal deformities introduced in 1878.

Vascular Surgery:

Murphy's successful circular anastomosis of blood vessels in 1896.

Carrel's method of vascular anastomosis and tissue transplantation, 1902.

Introduction of Cardiopathy:

First case of heart suture by Farina in 1896.

Extraction of a thrombus from pulmonary artery, after vessel had been exposed and incised, performed first by Trendelenburg in Leipsic.

Transplantation of segments of arteries and veins.

Substitution of the venous for the arterial system (Wieting's operation for reversal of the blood current).

Utilization of veins for drainage of lymph.

Endoaneurysmorrhaphy, the Matas method of intrasaccular suture as applied to the cure of aneurysm.

Preliminary testing of the collateral circulation before attempting any operation upon the arteries by Matas.

Direct transfusion and serotherapy in hemorrhage.

Surgery of Base of Brain: (Harvey Cushing; Hirsch).

Surgery of the Gasserian ganglion in severe trigeminal neuralgias.

Operations on Spinal cord by Gowers and Hersley, 1889.

Forster's operation for locomotor ataxia proposed in 1909.

Intramedullary affections of spinal cord rendered accessible by Elsberg, 1912.

Nerve resection and nerve suture.

Surgical Gynecology:

First successful vaginal ovariectomy by T. Gaillard Thomas in 1870.

Repair of lacerated cervix, by T. A. Emmett, 1874.

Vaginal hysterectomy of cancerous uterus by Mary Amanda Dixon Jones, 1887.

First application of galvanism to uterine myomata, 1874.

First application to treatment of uterine myomata of Batty's operation of ablation of appendages by Trenholme, 1876.

Valuable modifications of the intraperitoneal method of treatment of the stump, March, 1881.

A series of improvements in the technique of the extraperitoneal method of treating the stump by which introligamentous tumors and those deep in the pelvis can be removed by J. Price and his pupils, 1886.

Total abdominal extirpation of myomatous uterus, by use of clamp (first resuscitation in America of the operation since those of Freud had been abandoned), Lewis, 1888.

First separate ligation of the uterine arteries in their continuity and total extirpation of this method, Stimson, 1889. Method of total extirpation by use of a staff, Eastman, 1889.

Total abdominal extirpation, fastening stump of vagina to abdominal incision, for prolapse, Polk, 1889.

Methods for making the stump intraabdominal but extraperitoneal, Polk 1888, Kelly 1890, Byford 1890, Bear 1892.

Total abdominal extirpation of the uterus with suppurating appendages, as a matter of election, Baldy, Krug, Polk, 1893.

Eucleation of the stump as well as the myoma, by use of a serrated gouge, without severing the uterine arteries, Eastman, 1894.

Total extirpation of uterus in cases of extrauterine pregnancy, where the tube which is not pregnant is diseased, Krug, 1894.

Porro's Cesarean section, with excision of adnexa, 1876.

Freund's extirpation of cancerous uterus, 1878.

Czerny's vaginal excision of uterine tumors, 1881.

Saenger's improved Cesarean section, 1882.

Lawson Tait's operation for extrauterine pregnancy, 1883.

Howard Kelly's hysterorrhaphy, 1887.

Wertheim's radical operation for cancer of the uterus, 1900.

Obstetrics:

Duehrssen's method of vaginal Cesarean section, 1896.

Obstetrical analgesia (through a combination of drugs).

Discovery of latent gonorrhea in the female by Noeggerath, 1872, and the introduction of Crede's silvernitrate instillation for infantile conjunctivitis.

Abderhalden's announcement of the ferment-reaction in the diagnosis of pregnancy, 1912.

Pathology:

The pathological histology of all eye diseases became a fruitful field of research. The etiology and

genesis of acute otitis media were established by German investigators.

Pathology of Respiratory and Related Systems:

Gull described Myxedema in 1873.

The parathyroid glands were described by Sandstroem in 1880.

Important clinical and experimental contributions to the physiology of the thyroid and parathyroids were published by Pineles in 1904.

Sex gland implantation Lespinasse, Nov. 22, 1913.

Testicle grafting for improvement of sex function, skin, circulation, arterio sclerosis, Lydston, March 7, 1914.

Cushing described dyspituitarism in 1911.

Acromegaly as connected with the hypophysis was discussed by Marie in 1886.

The first case of tumor of the carotid gland was reported by Marchand in 1891.

Pathology of Digestive System:

Articles appeared on tuberculosis of the salivary glands; on esophageal diverticula; peptic ulceration of the esophagus; muscular stenosis; gastric ulcer and cancer; uremic necrosis of the intestine (Treitz) and intestinal catarrh (Nothnagel). The term "inflammation of the bowels," which fifty years ago covered a list of affections has been replaced by the specific terms colitis, enteritis, pelvic cellulitis, peritonitis and appendicitis. The indications for early laparotomy in appendicitis and McBurney's point were first emphasized in 1901. Numerous articles appeared concerning the liver and the pancreas.

Pathology of Uropoietic System:

Important investigations on the subject of Bright's disease, on the origin of cylinders in the urine; on hypernephroma of the kidney (Grawitz), urinary calculus. The suprarenals were recognized as having an important bearing on metabolism.

Regenerative role of bone-marrow in hemorrhage came to be properly understood.

Osteomalacia and rachitis investigated.

Coxa vara studied by V. Bruns, and scoliosis by Albert and Nicoladoni. Anomalies of the bony pelvis were described. Neuropathic arithitides attracted attention of pathologists.

Physiology:

The chemical activation of the sea-urchin's egg by Jacques Loeb startled the scientific world in 1899.

Study of the ductless glands inaugurated by establishment of the fact of internal secretions, by Brown-Sequard, 1891—followed by work of Sajous, 1903.

Action of digestive glands investigated by Pavloff in 1898.

Study of metabolism, led by V. Noorden, began in years 1892-95.

Localization of function in cerebrum established by Fritsch and Hitzig followed twenty years later by Monakow.

The non-fatigability of nerve-tissue demonstrated by Bowditch in 1890.

Phenomena of neuro-muscular fatigue and exhaus-

tion and so-called fatigue-toxins attracted the attention of investigators in this country and in Germany (Weichhardt).

Golgi's staining method of studying structure of Nervous system discovered, 1873—practically applied ten years later.

Neuron theory of Waldemeyer, 1891, rests upon the histological investigations of Golgi, Remon v Cajal, van Gehuchten and others.

Charcot writings on hysteria.

Freund's work on psychoanalysis.

Diagnosis:

Widal reaction in typhoid fever, a practical application of the agglutination-phenomenon.

Serum diagnosis of tuberculosis, syphilis, and other constitutional diseases.

Diagnosis of rabies by Negri bodies.

Cyodiagnosis, based upon microscopic demonstration of cell-contents in various body fluids.

Cryoscopy, or the determination of the constitution of urine by the establishment of its freezing point; variety of methods for the early recognition of gastric cancer.

Bacteriology:

Pasteur's work on pathogenic microbes.

Pasteur's protective inoculations against infectious diseases (chicken-cholera, malignant edema, and hog erysipelas).

Protective inoculations against anthrax and rabies in the eighties.

Discovery of the resistant anthrax spores by R. Koch, 1876.

Improved staining methods and dried blood smears introduced by Ehrlich in 1874 after Weigert's bacterial stain with carmin announced in 1871.

The *staphylococcus*, *astaphylococcus*, *diplococcus* of pneumonia, *meningococcus intracellularis*, *colon bacillus*, *bacillus of rhinoscleroma*, *bacillus of leprosy*, *bacillus of influenza*, all became known during the last few decades.

Bacillus of leprosy discovered by Hansen, 1874.

Spirillum of relapsing fever discovered by Obermeier, 1873.

Parasitic ameba in dysentery discovered by Loesch in 1875.

Anthrax bacilli first grown on artificial media by Koch, 1876.

Bacillus of malignant edema described by Pasteur, 1877.

Gonococcus discovered by Neisser in 1879.

Streptococcus and *staphylococcus* isolated by Pasteur, 1880.

Typhoid bacillus isolated by Eberth, 1880.

Ameba of malarial fever discovered by Laveran, 1881.

Epidemic nature of *Poliomyelitis* discovered by Medin, 1881.

Tubercle bacillus discovered by Koch, 1882.

Bacillus of glanders discovered by Löffler, 1882.

Diphtheria bacillus discovered by Klebs, 1883.

Tetanus bacillus discovered by Nicolaier, 1884.

Colon bacillus discovered by Eccherich, 1886.

Meningococcus discovered by Weichselbaum, 1887.

Bacillus of Malta fever, discovered by Bruch, 1887.

Para colon and *Para typhoid bacilli* described by Gilbert, 1893.

Transmission of Texas fever by cattle tick reported by Smith and Kilbourn, 1893.

Blastomycosis described by Gilchrist, 1893.

Bacillus of Bubonic plague discovered by Kitasato and Yersin, 1894.

Discovery of *bacteriolysis* by Pfeiffer, 1895.

Discovery of *bacterial agglutination* by Gruber, 1896.

Widal-Sicard agglutination test for typhoid fever, 1896.

Dysentery bacillus discovered by Shiga, 1897.

Discovery of *bacterial hemolysis* by Bordet, 1897.

Demonstration of *hook-worm infection* by Loos, 1898.

Differentiation between human and bovine tubercle germs by Smith, 1898.

Finley's theory of transmission of yellow fever by mosquitoes, conclusively proved by U. S. Army Commission, 1899.

Parasite of sleeping sickness discovered by Dutton and Ford, 1903.

Transmission of the disease by the Tsetse fly shown by Bruce, 1903.

Koch's investigation of African fever, 1908.

Bacillus of pertussis discovered by Bordet and Gengou, 1908.

Wassermann's serodiagnosis of syphilis with Noguchi modifications of the test.

v. Pirquet's cutaneous reaction in tuberculosis.

Calmette's and Wolf-Eisner's conjunctival reaction, 1907.

Flexner's experimental production of poliomyelitis, 1910.

Peyton Ross's successful transmission of sarcoma, with filterable virus, 1911.

Plasmodium of malaria, cultivated in the test tube, by Bass, 1912.

Pathogenesis of many infectious diseases, i. e., tuberculosis, actinomycosis, leprosy, typhoid fever, gonorrhea, variety of forms of cerebrospinal meningitis, pneumonia, endocarditis and tetanus, established in the last half century.

Organized Preventive Medicine:

First took root in early years of twentieth century.

Sleeping sickness, beriberi, and tropical dysentery, placed under reasonable control.

Yellow fever checked as result of Finlay's belief followed by work of Reed, Carroll, Lazear and Agramonte.

Sir David Bruce's investigations of causes of sleeping sickness and Malta fever, awarded by Leeuwenhoeck medal in 1915, as were those of his predecessors, Ehrenberg, 1875, Ferdinand Cohn, 1885, Pasteur, 1895, and Beyerneck, 1905.

Vaccine Therapy and teachings of immunology by Metchnikoff, Wright and others.

Control of hook worm disease in Porto Rico by Ashford, 1903-04; in southern U. S. by Stiles, 1910-12.

Loos showed that the hook-worm larvae penetrate the skin, 1910.

Therapeutics:

Discovery of hypnotic properties of chloral-hydrate by C. Liebreich, 1869.

Salicylic acid isolated by Kolbe, 1874.

Polcarpine first recommended as a remedial agent, 1874.

Trypsin discovered by Kühne.

Iodine introduced into surgery by Moorhof, 1880.

Hemostatic affect of the fluid extract of hydrastis canadensis demonstrated in 1883.

Introduction of Ichthyol into medical practice by Uima, 1883.

Antipyrin first prepared by Knorr, 1884.

Cocaine introduced as an anesthetic in eye surgery, 1884.

Antifebrin and acetanilid prepared by Cahn and Heppe, 1886.

Sulphonal prepared by Baumann, 1886.

Salol introduced by Neucki, 1886.

Strophanthus recommended as a substitute for digitalis by Fraser, 1886.

Creosote gained as a remedy for tuberculosis, followed by guaiacol.

Anti-diphtheritic serum introduced by Behring, 1883.

Fischer synthesized caffeine, theobromine, xanthin, guanin and adenin, in 1897.

Heroin introduced by Dreser, 1898.

Erepsin discovered by Cohnheim, 1901.

Veronal introduced by Fisher and v. Mehring, 1903.

Novocain, discovered by Einhorn, 1905.

Announcement by Ehrlich's side-curtain theory and his introduction of salvarsan, 1909.

Gerotherapy, organotherapy and chemotherapy are three distinctive modern weapons in the fight against disease.

Discovery of bactericidal powers of blood serum, by Nuttall, 1888.

Adrenalin, the active principle of the suprarenals, was isolated by Takamine in 1901.

Recently the use of the spleen and bone-marrow has been recommended in chlorosis, nephritis, pancreas indigestive disturbances, hypophysis in certain nervous diseases, and acromegaly, etc.

The new knowledge of the action of the thyroid on cretinism and goiter and certain forms of obesity and skin disease, constitute a permanent gain in the therapy of disease.

Spirocheata pallida discovered by Schaudinn, 1905.

Heliotherapy dates back slightly over 50 years, but was first placed on a scientific basis by Finsen in 1893.

Heredity:

Mendel's publication of his laws of Hybridization, 1865. (Generally lost sight of until given publicity by) :

The simultaneous and independent announcement of the same laws by Tzermak in Austria, Codrens in Germany, and De Vries in Holland, 1900.

X-Rays:

Sir William Thompson's discovery of the electrometer, 1860.

Herman Sprengel devised the mercury air pump, 1865.

Sir William Crooke's announcement that matter is radiant, 1879.

William Conrad Röntgen discovery of the X-Ray, April 1, 1895.

Clyde Snook, Edwin W. Kelly and G. Herbert White, three Americans, developed high tension transformer for X-ray tubes, 1907.

Dentistry:

Robert Arthur, D. D. S., 1854, demonstrated adhesive properties of gold for dental fillings.

G. V. Black, D. D. S., 1871, brought out first dental engine.

W. D. Miller, D. D. S., 1880, established the bacteriological origin of dental caries.

G. V. Black, D. D. S., 1869, demonstrated physical properties of gold as applied to dental fillings.

Systematic Nursing:

First gained a foothold in this country in the early sixties of the nineteenth century.

Medical Education:

Medical schools requiring a three years' course did not exist in the United States in 1875.

In 1903 a four years' course was compulsory in 144 medical schools.

Women are admitted to Medical Schools and State examinations in America, England, Germany, France, Switzerland, Spain, Sweden and Russia.

FOOD VALUE OF PEANUTS

Good Health Journal says: To sum up the use of the peanut and peanut products as food may be highly recommended for the following reasons:

(1) The oil is most valuable as a table oil, equal to other oils in digestibility and food value; (2) the shelled nuts are a splendid food, cheap and nutritious; (3) The salted nuts are equally nutritious; (4) peanut butter is highly useful in many ways, besides being rich in fat and protein. It is a butter substitute and likewise a substitute for meat; (5) the whole shelled nuts as well as part of nuts are well adapted for use in candies, cakes, cookies, wafers, etc.; (6) the flour from the peanut itself or from the oil cake is a good part-substitute for wheat flour for bread making.

OLNEY HAS ONE TOO

BUT THEY DO NOT APPARENTLY CALL HIM BY THE SAME NAME

Mount Carmel is also on the map with Olney. A title like Doc. Fritchle's has been wished on Doc. Schneck; only the *Mount Carmel Republican-Register* calls it "collaborating epidermologist," which we believe we admire even much more than the other.—*Olney Daily Mail*.

ILLINOIS MEDICAL JOURNAL

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State society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

JUNE, 1920

Editorial

THE ROCKFORD MEETING

The seventieth annual meeting of the Illinois State Medical Society adjourned May 20 after one of the most interesting sessions it has held in many years.

The attendance was well up to standard; the large attendance was specially gratifying because of the fact that the meeting was held at the northwest corner of the state in a city not

readily accessible to railroad transportation from other portions of the state.

From the scientific standpoint the papers read at this meeting were considerably above the average of papers read at previous meetings. A serious objection to the arrangements of the meeting was the short time allowed (two days) to dispose of the very long program. We feel confident that some satisfactory plan to take care of all who wish to read papers at the next convention will be arranged for the 1921 meeting.

The House of Delegates disposed of a great amount of important business in a methodical and rapid manner. The reports of the numerous elective and appointive committees were perhaps the best that were ever presented to the House of Delegates.

The House of Delegates adopted several resolutions of far reaching constructive character. One of the most conspicuous of these was the disapproval by the Society of Physicians loaning their names so freely to unAmerican schemes (as has been the case in the past) before the physician has given thorough consideration to the possible deleterious effects the propaganda put out by individuals sponsoring these visionary schemes might have upon people and the medical profession.

In another resolution the Society went on record as being in favor of State rights and expressed its disapproval of the attempt by the federal government to usurp the functions and duties that legitimately belong to the several States. The House also went on record in instructing its delegates to the American Medical Association to oppose State Medicine, Compulsory Health Insurance, Nationalization of the City, County and State Health Agencies and allied dangerous Bolsheviki schemes in the next House of Delegates of the American Medical Association.

It also created a committee on the standardization of hospitals. Hereafter the Illinois State Medical Society is to do the standardization of the hospitals of the State. This is as it should be. The Director of Registration and Education, Mr. Shepardson, approved of the appointment of such a committee and agreed to cooperate with the Society in the standardization of hospitals.

Dr. Charles E. Humiston was made president-elect of the Society. There are only a few men in our Society who have contributed as much to the development and guidance of the policies and general activities of our Society as has our new President-elect. He will fill the position with credit.

THE NEW ORLEANS MEETING OF THE A. M. A.

The American Medical Association held its seventy-fifth annual meeting at New Orleans April 26 to 30. The city is a delightful place for a Spring session of the A. M. A. One of the serious handicaps to New Orleans as a convention city is the lack of adequate hotel accommodations. Many of the visitors were uncomfortably housed in private homes and boarding houses some distance from the downtown district. Boston is to be the next place of meeting of the convention. Let us hope the Hub city will have greater facilities for taking care of the great crowd that usually attends the A. M. A. meeting. In spite of the handicap of hotel accommodations New Orleans gave a warm reception to the medical men and women who attended the meeting. The town is very interesting, the old and new parts of New Orleans demonstrate by contrast the old and new ideas and ideals of municipal progress. The old negro quarter with its open sewers, the French and Spanish quarters with narrow streets and buildings 200 years old, continuously occupied during this long period of time, are very interesting to the sightseer. At the time of the session the Mississippi river was at nearly record height and afforded an interesting trip by boat, where one could view at the best advantage the 35 miles of docks and see the ships from various countries of the world.

The clinics, while not up to the standard given at some of the northern and eastern conventions, nevertheless were quite instructive. There was an excellent scientific exhibit; everything pertaining to medical and surgical science was in evidence.

The House of Delegates did a great amount of good work. One of the most conspicuous and of far-reaching importance to the medical

profession was the unanimous disapproval of Compulsory Health Insurance in spite of the machinations of Dr. Alexander Lambert, the retiring president of the Society, whose pernicious influence was exerted up to the moment the vote was taken on this measure.

A great deal of vicious legislation was headed off and a liberal amount of soothing syrup was poured on the medico-economic hysteria and Ouija Board and dream book schemes so prevalent today among a group of near-doctors who roam through the medical world seeking whom they may devour.

The House of Delegates elected Dr. Hubert Work of Pueblo, Colo., for its next president. We understand that Dr. Work is the first neuropsychiatrist ever elected president of the American Medical Association. Dr. Work is a good judge of men and affairs and we have every reason to believe he will steer clear of the mercenary schemes of his predecessor. A rule that should be inaugurated at once is to place a limit on the inaugural address of the incoming president. It is very discouraging to have to listen to an uninteresting man rehashing elementary stone age stuff for a period of two hours and offer as an excuse for giving a long nerve-exhausting address that he gets a chance like this but once in a lifetime.

THE ILLINOIS STATE MEDICAL SOCIETY TO STANDARDIZE HOSPITALS

The Illinois State Medical Society has taken vigorous hold of the problem of standardization. The director of registration and education, Mr. F. W. Shepardson, has asked the physicians of Illinois for advice and co-operation. This is as it should be. Any attempt by any outside organization to gain control of the hospitals where physicians must work is a bit of insolence which the profession as a whole cannot tolerate.

The hospitals must be encouraged in their proper work of caring for the sick and protected from becoming the feeding or recruiting grounds for any particular group of specialists. The machinery of the State Society is admirably adapted to handle the hospital question. Illinois has set an example which the other states should lose no time in following.

RETROSPECT OF MEDICAL PRACTICE IN ILLINOIS

Dr. O. B. Will, of Peoria, consented to give us a history of medical practice in Illinois during the last seventy years. We looked forward for a very interesting paper containing historical data that our membership would enjoy reading. As we were about to go to press we received a letter announcing the sickness of Dr. Will and his inability to complete the paper in time for the June issue. We regret being unable to publish Dr. Will's reminiscences in this June number of the JOURNAL along with the other data showing the progress of medicine during the last seventy years. Dr. Will's paper will be published in a later issue.

THE SERIOUS SCARCITY OF PRINT PAPER

It is not only the high cost of paper but as well the scarcity of it that is giving us troubled dreams at night and high blood pressure during the day. The May issue was printed on a paper of an inferior grade and considerably off color to our regular stock. Nobody regretted this incident more than the editor. It was the only grade of paper purchasable at the time. We had to accept this stock; otherwise the May issue of the JOURNAL would have failed to come out. Because of the paper embargo the supply ordered four months ago has not arrived at the date of publishing the June JOURNAL. This purchase should have reached us April 1. A great many journals have had to discontinue publication because of the embargo, railroad strikes and the shortage of paper. We hope to be able to continue our publication but we do ask our readers to be as charitable as possible towards us until conditions assume a normal state.

THE ENTERING WEDGE.

ABOLITION OF MEDICINE AS A PRIVATE ENTERPRISE.

G. FRANK LYDSTON, M. D.
CHICAGO.

The Bolshevik is at the Medical door—rapping faintly but still rapping. I previously have called attention to the obvious fact that the medi-

cal profession is the weakest link in the "bourgeois" chain. Naturally, it is here that the red has begun "hammering." The first blow aimed was compulsory health insurance. Marvel 'tis that a single doctor in this broad land of ours should favor this wolf in sheep's clothing—but there are plenty who do. Still greater marvel that so many of these microcephali should have been permitted to enter medicine. Cheap colleges? Alas! no; the crowd of "Class A," self-labelled "high-brows" that stands behind the "We Are Its" who are trying to establish a medical bureaucracy in Washington, would make an equal number of morons look like Solomons. The bill recently introduced in Congress proposing the abolition of medicine as a private enterprise, had all the earmarks of bolshevism but, all the same, I will wager a large red apple that behind it stood the "We Are Its."

Blow number two was State Hospitals and the rest of the ill-begotten brood of schemes to take medicine out of the hands of the profession and hand it over to the bolshevists—plain "reds" and medical high brows who, having climbed to the top via the favor of their professional clientele, are ready to kick the ladder out from under themselves at any time if sufficiently tempting honors or emoluments are offered. *Having "got theirs," to hell with the little fellows.*

Apropos of the proposed State Hospitals: A certain member of the Illinois State Legislature was asked if it wouldn't be rather expensive to secure the services of high grade medical men for the proposed institution. "Hell, no," he replied, contemptuously, "*We can get all them fellers we want, for nothin'.*"

And the politician was right. The cheapest thing on earth—and with the least *esprit de corps*—is the eminent physician. His ethics begins and ends with keeping the little medical pigs out of the clover patch while the big hogs wax fat.

Speaking of the pernicious compulsory health insurance scheme, a splendid article by Dr. M. L. Harris, appears in the J. A. M. A., April 10, 1920. Every doctor should read this—and then write Dr. Harris and ask how he stands on the proposed *gobbling up of American Medicine by the Government*, through the medium of a Medical Cabinet officer, large appropriations for medical "advancement," etc.

By way of wasting some more perfectly good ink and nice white paper I will venture a prediction viz.: Within a very few years practitioners of medicine will have resolved themselves into:

1. Fellows who are content to pass a civil service examination to acquire a job with the usual pitiful salary paid to men in political jobs. (Everybody knows the sort of service the public would get from men who haven't the self respect of a bricklayer, and knows also, how much they contribute to medical science.)
2. A few eminent consultants who will monopolize the rare bird who is willing to pay well.
3. "Quackopaths" in infinite variety.
4. Christian Scientists and faith healers.
5. Voodoo doctors.
6. Patent medicine men.

The good old family doctor and the independent specialist will be as extinct as the dodo, the great auk and the archeopteryx.

Meanwhile let the profession sleep on. The low brow "red" and the high brow bolshevik will attend to everything for us. The "red" will work unmolested because the profession doesn't take him seriously, the "high brow," because the average doctor doesn't know that some lofty human fronts are like certain houses with imposing front elevations. One tumbles down the back steps immediately he enters the front door.

Remedy? Sure, but the rank and file haven't perspicacity sufficient to grasp it, nor backbone enough to put it in practice. *Let the medical rank and file list the "We Are Its" who favor schemes inimical to the best interests of the profession at large and serve notice on them that "referred work" has stopped—then watch the eminent consultants and operators climb trees.*

25 E. Washington Street.

IT IS STRANGE, DR. LAMBERT

It is a little strange that Dr. Alexander Lambert, the president of the A. M. A., should be mixed up in a few things that do not meet with the approval of right-thinking medical men. It is all right for Dr. Lambert to champion compulsory health insurance and fight his local medical society on that question if he so chooses, but it does not look particularly well for him, reported as being interested in the Towns-Lambert Drug Cure and Sanitarium of Central Park West, New York City, to be championing the anti-drug bill presented for passage before the New York state legislature and aimed at doctors and in the interest of drug addict institutions. The bill, if passed, would

prohibit physicians from prescribing morphin for their patients, and dispensing drugs, and to commit drug addicts to institutions.—*Indiana Medical Journal*, May, 1920.

NOTE: The doctors of Indiana may derive consolation from the fact that it was the very activities along the lines complained of in the above that so thoroughly discredited Dr. Lambert at the A. M. A. meeting at New Orleans. It is an old saying "that if you give a calf sufficient rope it will hang itself." In Dr. Lambert's attempt to destroy the profession he was unsuccessful; however, he did succeed in discrediting himself in the estimation of the rank and file of his fellows.

"They hung Haman on the scaffold he had prepared for Mordecai," and the same poetic justice was meted out to Dr. Lambert at New Orleans when he was hung on one of the many scaffolds of destruction he so energetically prepared for the execution of the medical profession of the United States.

AMERICAN MEDICAL ASSOCIATION BY UNANIMOUS RESOLUTION CON- DEMNS HEALTH INSURANCE

At the New Orleans meeting the following resolution was adopted:

Resolved that the American Medical Association declares its opposition to the institution of any plan embodying the system of Compulsory Contributory Insurance against illness, or any other plan of Compulsory Insurance which provides for medical service to be rendered contributors, or their dependents provided, controlled, or regulated by any State, or the Federal Government.

The resolution was adopted without a dissenting vote and in spite of the machinations of Dr. Alexander Lambert (retiring president of the A. M. A.), whose pernicious influence in favor of Health Insurance was exerted up to the very moment the vote was taken.

The history of the progress of the resolution through the House of Delegates is of interest to the profession. When it was introduced Dr. Lambert was successful in having it referred to the reference committee on Hygiene and Public Health of which Dr. Schereschewsky (United States Public Health Service), an avowed advocate of Health Insurance, was chairman.

Immediately after adjournment of the first session of the House of Delegates Dr. Lambert appeared (uninvited) at the preliminary meeting of

the Schereschewsky committee and at once proceeded to tell the members what kind of a report they must bring in. At intervals during Dr. Lambert's talk the chairman would interrupt with the statement, "Yes, that's the report we will bring in." It was apparent at the outset that the intention was not to let the other members have anything to say in formulating the report. After Lambert's talk the committee adjourned to meet later in order to discuss the resolution. Inasmuch as another meeting of the committee had not been called up to the time of convening the House of Delegates for the second time, a member asked the chairman when they would be called together to consider the resolution, to which question the chairman replied, "I am ready to report now." The other members were not to be allowed to discuss, or for that matter, to see the report which they were supposed to sponsor. Strong arm methods that have characterized the propaganda for Health Insurance from the outset.

Three members of the committee insisted on an official meeting and finally the chairman reluctantly called one. When convened, Schereschewsky steadfastly refused to grant a hearing to the sponsors of the resolution. Being outvoted in this particular, the committee decided to invite representatives to appear from the states having delegates instructed to vote and work against health insurance. After much arguing the committee stood four to one for the original resolution. The chairman at last consented to a unanimous recommendation, but reserved the right to bring in a minority report at the last moment. This he failed to do; perhaps he had learned the temper of the House of Delegates in the meantime.

Before final action was taken on the resolution, Dr. Lambert (not a member of the House, and without even asking the courtesy of the floor), proceeded to deliver a tirade against the resolution, hoping by this means to stampede the delegates and prevent its adoption. The presiding officer ordered him to sit down. The vote on the resolution was taken with the result above mentioned.

Dr. Lambert went to New Orleans carrying an endless chain of pet schemes, and throughout the first half of the session his actions were those of an autocrat. His final complete discreditment

shows that autocracies have gone out of fashion in the American Medical Association almost as much as in politics.

SEVENTY YEARS OLD TODAY

As we go to press for this issue the Illinois State Medical Society is seventy years of age. The organization was founded June 4, 1850. The founders and the original members of the Society have long since crossed the divide. They live with us in our daily practice either in tradition or memory.

Man is not immortal but in a limited sense a society or organization may be. To the individual the years bring wisdom but lessen the ability to profit by it. A medical organization is under no such handicap.

On this, its seventieth birthday anniversary, the Illinois State Medical Society stands on a mountain of accumulated experience and yet greets its membership with a sprightly sense of being younger than ever.

Seventy years! This is an age which most societies find venerable. In the West the next oldest contemporary is the Chicago Medical Society founded in the same year and three years after the debut of the American Medical Association.

Think back and see if you can reconstruct the life of that time. The death rate for Chicago per one thousand of population in 1849 was 73.8; in 1850 or one year later it was 48.96 and for 1919 it was less than 12; for the State of Illinois the death rate for 1850 was correspondingly high; and for 1919 has been similarly reduced. The population of Chicago in 1850 was 29,693; of the State of Illinois 851,470; now there are nearly 3,000,000 people in Chicago and 6,500,000 in Illinois.

The Illinois State Medical Society was organized seven years after the establishment of Rush Medical College, the first educational institution in Illinois. Only seven years before Dr. Oliver Wendell Holmes had announced the infectiousness of puerperal fever; only four years before the first public use of ether as an anesthetic had been given out, and only three years before the first use was made of chloroform for the same purpose.

Detailed record of the progress of medicine during the last seventy years is epitomized in a

special article in this number. We ask our members to read it carefully. In this editorial we refer to a comparatively few items that are of more than passing interest to Illinoisans:

1850 Devaine discovered the organism of Anthrax.

Illinois Medical Society founded.

1851 Ophthalmoscope invented by Helmholtz.

1854 Dr. N. S. Davis began regular publication of reports on health of Chicago.

Dr. Daniel Brainard advocated infiltration of solutions of iodine in treatment of poisoned wounds.

1855 Discovery of Trichinæ.

First use of quarantine placards in Chicago.

E. S. Cheesbrough, engineer, advised flushing Chicago river with water from Lake Michigan for purification purposes.

1858 Czermak invented the Laryngoscope.

1859 Chicago Medical College started—the first medical school in America to require graded course of instruction.

Dr. John H. Rauch, in a paper before the Chicago Historical Society, called attention to the danger of intramural interments. As a result the city cemetery on the north side was dedicated as a public park by action of the city council. This was the beginning of Lincoln Park.

1861 Semmelweiss, in Vienna, preached the doctrine of cleanliness as preventive of puerperal fever.

1867 Lister, acknowledged his debt to Pasteur, advocated antiseptics in surgery.

Dr. John H. Rauch appointed Sanitary Superintendent of Chicago. First tunnel, two miles long, completed for supply of lake water.

1869 First inspection of milk in Chicago.

1870 First milk ordinance in Chicago.

Simon demonstrated the possibility of removing a kidney.

1871 American Public Health Association formed, with John H. Rauch of Chicago as treasurer.

1876 Establishment of Department of Health, Chicago.

1877 Illinois State Board of Health estab-

lished. License required for practice of medicine in the state. This was the third attempt to regulate the practice of medicine in the State. (Act of 1819, repealed in 1821, established a medical society with authority to license practitioners and to fine members absent from meetings. Act of 1825 was repealed before effective.) At meeting of American Public Health Association in Chicago N. S. Davis read paper on Means of Reducing Infant Mortality. Dr. Henry M. Lyman protested against the placarding of scarlet fever, deploring the waste of cards and tacks, and revolting against the "yellow card nuisance."

1878 Eight per cent of hogs in Chicago slaughterhouses found to be infected with trichinæ.

Birth registration in Chicago thought to be approximately complete.

1879 Pasteur announces the infective agent in puerperal fever.

Neisser discovers the Gonococcus.

Professor Lester Curtis, at Chicago Medical College, made the first systematic use of the microscope in medical education in America.

1880 Discovery of Eberth's bacillus as cause of typhoid fever.

Discovery of the parathyroid glands by Sandstrom.

1882 May 5, Pasteur demonstrated the protective power against Anthrax, using cultures attenuated by growth in higher temperatures.

Pasteur demonstrated protective power of cultures attenuated by age against chicken cholera.

March 24, Koch announced the discovery of the Bacillus tuberculosis.

1883 Germs of diphtheria and glanders discovered.

First series of lectures in Illinois given by Prof. Henry Gradle on the germ theory of disease.

1884 Bauer, in St. Louis, operated for epilepsy, removing a portion of the skull. Metchnikoff discovers the protective power of phagocytes.

Bacillus of tetanus found.

- 1885 Dr. F. W. Riley published article in the *Daily News* calling attention to flies as carriers of disease.
First intubation in Illinois for laryngeal diphtheria performed by Dr. Frank E. Waxham.
Demonstration by Pasteur of curative action of injections of spinal cord of rabid rabbits attenuated by drying in treatment of hydrophobia. Use of cocaine as local anesthetic.
- 1888 McEwen of Glasgow performed laminectomy for spinal paralysis.
- 1889 Gueniot suggested the section of skull for idiocy. Operation performed by Lannelongue in Paris, Keen of Philadelphia, and Wyeth of New York.
Sanitary District of Chicago established.
- 1890 Discovery of the antitoxin of diphtheria by Behring in Germany and Kitasato in Japan, with its curative and protective powers.
Antitoxin of tetanus discovered.
- 1891 U. S. meat inspection law passed.
Lumbar punctures used in diagnosis of cerebrospinal meningitis.
- 1894 Discovery of the photographic power of the X-ray.
- 1895 Recognition of the doctrine of "internal secretions," first announced by Sajous in 1873 and ridiculed.
First diphtheria antitoxin issued by the Chicago Health Department, Oct. 5.
- 1897 Recognition of action of precipitin and agglutinin in sero-analysis.
Haffkine's serum used successfully against the bubonic plague in India.
Rehn first successfully sewed a wound of the heart.
- 1898 Ronald Ross demonstrates Anopheline Mosquitoes as essential agents for the spread of malaria. (This discovery depended upon, and added confirmation of, the discovery of Manson in 1876 that filiriasis is spread by *Culex* mosquitoes and the discovery of Leveran in 1880 of the plasmodia of malaria. It also revolutionized public health work.)
Invasion of hookworm through skin demonstrated.
- 1900 Discovery that the presence of *Stegomia* mosquitoes is essential for the spread of yellow fever.
Rats were found to be disseminators of bubonic plague with the aid of fleas.
Chicago Drainage Canal opened.
Alderman William Hale Thompson, by resolution in city council, secured the first public playground for Chicago.
- 1902 Demonstration of agency of the tsetse fly in spread of the African sleeping sickness—trypanosomiasis.
- 1903 Illinois Medical Society incorporated "to promote science and art of medicine."
- 1903-4 Wright's recognition of "opsonins."
Atoxyl found specific for African trypanosomiasis, when given in efficient doses. Trypanosomes rendered immune by small doses.
Recognition that beriberi was result of use of rice which had been deprived of its outer coating, containing vitamins; first affirmed in 1880 by Eikman, and independently by Bradden in 1893.
Country dairy inspection inaugurated by Chicago.
- 1905 Discovery by Schaudinn that *Treponema pallidum* is causative organism in syphilis.
Discovery of anaphylaxis, or recognition thereof.
- 1906 First systematic bacterial inspection of Chicago milk from dairy farms.
- 1908 Adoption of dairy cards in Chicago Department.
Ordinance for pasteurization of milk not from tuberculin tested cows.
10,000 cows tuberculin tested.
City discontinues registration of births and deaths.
Lawrence avenue conduit completed.
- 1909 Discovery of the louse as carrier of typhus fever.
State of Illinois assumes distribution of diphtheria antitoxin.
Under the Glackin law Chicago votes to establish a tuberculosis sanitarium.
- 1912 Chlorination of Chicago water supply begun.
Publication of studies of Creel and Cannon on general physiologic action of adrenin.

1917 State Board of Health of Illinois abolished. State Department of Registration and Education created and given jurisdiction over practice of medicine and allied sciences.

Illinois admitted to Federal Registration "Area for Deaths."

In 1850, at the time our society was established, the old gig and gray Dobbin, saddle bags, sulphur and molasses and the great horn spoon were the doctor's vade mecum. Contrast this condition with the present day method of transportation and treatment of the sick. The automobile and the aeroplane have relegated old Dobbin to the rear. Newer and more successful medication and surgery have supplanted the cruder methods.

Men and causative forces have achieved closer acquaintance in the seventy years that have elapsed since the inception of the Illinois State Medical Society. Seven centuries of progress have been attained through those seven decades. With a similarly continuous pace, perhaps the light of the millenium may be unfolded to the world before the coming seventy years have ended.

Civilization has been maintaining an excellent balance along lines economic, physiographic, artistic, philosophic, scientific and humanitarian. Without egotism the medical profession may account itself a vital factor in the motivation of these seven growing decades. Doctors of the world have played a conspicuous part in unfolding the wonders of scientific progress that have been revealed and have helped to keep them unlocked for daily use.

Owing to self-sacrificing labors of medical men during the last seventy years, epidemic and endemic affections, such as malaria, typhoid fever, smallpox, yellow fever, typhus fever, cholera and hook worm diseases have been banished where civilization extends. Through the achievement of bacteriologists and clinicians diphtheria and syphilis are preventable and curable, and meningitis and many infections are soon to cease being the dread of the community. By preventing communicable diseases and by reducing the high mortality that prevailed seventy years ago, millions of people are alive today who otherwise would have gone to untimely graves.

Passing the subject of medicine, many events

of vital interest to mankind have occurred since this Society was founded. We ask you to think back and to picture in your mind the domestic facilities in use in 1850. Here is one little item that will assist you: When the Society was founded the sewing machine had just been brought out. Visualize a nation of homes without sewing machines and you will have a dim idea of the changes our organization has seen.

The sewing machine is only one of the utilities that you will find lacking in the industries if you think back to 1850. Telephones, automobiles, aeroplanes, electric cars, will be left behind at the very start of the backward journey. Telegraphs had just been installed; the first line ran between Annapolis and Washington. Cables, electric subways, elevated railways, Pullman sleepers, national railway system, ready to wear clothing, the iniquitous delicatessen, modern plumbing from kitchen sinks to Oscar Hammerstein's bathtub drain pipe, the submarine, smokeless gun powder, electric light, wireless telegraphy, great telescopes that have made astronomy's readings a fireside companion in thousands of homes and educational institutions, typewriters, cotton gins, motorcycles, passenger elevators, moving pictures, gas ranges and a million details and conveniences of modern building and construction have been brought forth during the last seventy years.

Farm labor is revolutionized by the invention of machinery to perform heavy work better than human hands or brute strength. The house of McCormick, headed by the late Cyrus McCormick, who invented the reaper and threshing machine, must be credited with this liberation.

When our Society was established anthracite coal was still an experiment as a fuel, and whale oil was to be reckoned with as an illuminant.

Since 1850 the United States has nearly doubled in age and doubly doubled in point of area, trade, wealth and population. From a struggling adolescent it has become a mature woman and a big sister to the world at large.

In 1850 railroad mileage in the United States was about 6,000 miles for the twenty-six States then in the Union. Today it approximates 300,000 miles and traverses forty-eight States. When the Society was begun the estimated area of those twenty-six States was 940,000 square miles and the population 20,000,000; in 1919

the State area was rated at 3,000,000 square miles and the population at more than 100,000,000. In 1850 the national wealth of the country was \$6,000,000,000; in 1919 it was placed at \$250,000,000,000.

The annual production of wealth in 1850 was \$1,000,000,000; in 1919 it was \$50,000,000,000. Foreign trade in 1850 was \$250,000,000; in 1919 it was \$9,400,000,000. In 1850 the center of population of the United States was 23 miles southeast of Parkersburg, W. Va. In 1910 it was at Bloomington, Ind.; perhaps in 1920 it will be shown to be located about Chicago.

A host of happenings which we now look upon as distant history had not yet occurred when the Society first made its appearance. Zachary Taylor was President of the United States. He died July 9, 1850. Abraham Lincoln was practicing law and vowing that if he ever got the chance to hit slavery he would hit hard. But the Dred Scott decision, which was to prove the truth of Lincoln's maxim that the nation could not exist half slave and half free, was nearly a decade in the future, and it is not likely that even in his wildest dreams the ex-rail splitter fancied himself in the White House.

When the Society began its career Louis Phillipe was on the throne of France; Germany was a welter of quarreling principalities, of which already Prussia seemed the strongest. Italy was a mere "geographical expression," divided among fourteen different states and provinces, and two of the fairest were under the ever-cursed dominion of the Hapsburgs. The revolution of 1848 had not yet dawned. The Irish famine lay below the horizon, the Turk ruled Roumania, and Japan was yet the Hermit Kingdom, on whose sacred shores no foreigner was allowed. English ships sailed to India by way of the Cape of Good Hope. Australia was known only as a convict's settlement.

Other red letter years during the existence of the Illinois State Medical Society include the French Revolution; gold had just been discovered in California; Australia had this good fortune in 1851; Louis Napoleon was made emperor of France in 1852; Crimean war began in 1853; Commodore Perry's opening of Japan, 1854; end of Crimean war, 1855; the great mutiny in India, 1857; the Dred Scott decision, 1857, and the rumbling of the civil war that was to come; first Atlantic cable message,

August 4, 1857; secession of South Carolina, December 20, 1860; emancipation of Russian serfs, 1861, and in the United States civil war, 1861; Lincoln's emancipation proclamation and the ending of slavery, 1863; surrender of confederate army, April 9, 1865; assassination of President Lincoln, April 14, 1865; Atlantic cable laid, 1866; Dominion of Canada established, 1867; Franco-German war, 1870; France proclaimed a republic, 1873, three years after the capitulation at Sedan; Chicago burned, 1871; Mt. Vesuvius erupted, 1872; first elevated train run in New York in 1878; Bartholdi Statue of Liberty presented by France to the United States, July 4, 1884; Brazil became a republic, 1889; Cinema invented, 1894; Cuban revolution, 1895; Spanish American War, 1898; New York subway opened, 1904; North Pole discovered, April 6, 1910; Republic of Portugal established same year; United States postal savings bank system founded, 1911; South Pole discovered, December 14, 1911; China proclaimed a republic, 1911; the Peace Palace at the Hague dedicated, 1913; starting of the world's war, 1914; Panama canal opened, August 15, 1914; China restored as a monarchy, 1915; Russia rid herself of the czar, 1917; United States entered the world's war, 1917; termination of the world's war, November 10, 1918.

Perhaps the greatest industrial and social advances in the three score years and ten just ended have been recognition of the value of women and children to the State, and the practical granting of franchise to women over 21 years of age. Will the changes borne by the next seventy years be as strange? Since history is merely a repetition of emotions and events, we have every reason to believe that progress will surprise itself during the next seven decades. Seventy years from now we will stand, by comparison, where 1850 stands today.

NATIONAL MEDICINE BY THE BOOZE ROUTE

Doctor, have you received from the Internal Revenue Department the suggestion that you endorse a provision for federally conducted stations where a physician in attendance (and salaried) may dispense booze of approved quality or fill your prescriptions for aforesaid good qual-

ity booze? Incidentally inserting the wedge of "National Medicine?" When it comes your way study it carefully and puncture it. County society officers, be on the alert for this delusion and snare, and warn your membership against its dangers.

CONGRESSIONAL INVESTIGATION OF THE NARCOTIC SITUATION

The resolution passed at the Rockford meeting asking for an investigation of the narcotic situation is very timely. Let us hope it may clarify the atmosphere which has become befogged by the conflict of the Harrison Law and the various State laws and may enable the country to get rid of the tendency to "enter and search" for anything from dandelions and raisins and yeast to heroin and morphin.

GOVERNOR LOWDEN APPROVES OF STATE MEDICAL SOCIETY RESOLUTION

The following State rights resolution passed at the Rockford meeting was forwarded to Governor Lowden:

WHEREAS, There is a growing tendency in our National Congress to invade the authority of the States by the introduction of bills authorizing various departments of the Federal Government to exercise public health functions and duties properly belonging to the states; and

WHEREAS, There is an equally dangerous tendency in our own State towards the assumption by voluntary and irresponsible extra governmental agencies of powers and functions properly belonging to the locally constituted health authorities; therefore be it

Resolved, That the Illinois State Medical Society disapproves of any action whereby the Federal government attempts to exercise authority over health matters in any State except insofar as questions of National or Interstate importances are involved and that we urge that the regulations of all State health matters be under the direction of the legally constituted health authorities of the state as the representative of its citizens in health conservation operation, and be it further

Resolved, That we condemn the principle of Federal State aid as pernicious and dangerous;

that it is an incroachment on the functions of the State and an invasion of State authority tending to the demoralization of State Public Health work, rather than its development.

The Governor commented on the resolution as follows:

Springfield, Illinois,
May 25, 1920.

To the Secretary,
Illinois State Medical Society:

I beg to acknowledge the receipt of your letter of May 21st with resolution enclosed. I am glad your Society has taken this action, as I have been for a long time in full sympathy with the views expressed in the resolution. If the present tendencies towards centralization at Washington go on, all vitality will go from the several communities and States of the country in the management of their own affairs.

I congratulate the Society on the good work it is doing.

Very sincerely yours,
Frank O. Lowden.

NOTE: We have commented editorially several times on the dangers of centralizing everything in Washington. If this tendency is not stopped we will be the most governed people in the world. We are proud of the fact that Illinois' presidential candidate is the first aspirant for this great honor to go on record against the great danger of centralization of power and the establishment of a bureaucratic form of government.

A THREAT FOR THE MEDICAL PROFESSION.

IF YOU DEFEAT COMPULSORY HEALTH INSURANCE YOU WILL HAVE TO TAKE
STATE MEDICINE.

Brooklyn, May 18, 1920.

To the Editor: I am convinced that this Compulsory Health Insurance question will not down until the medical men of the nation are awakened to the viciousness of it and its associated legislation.

I am sending you some of the literature which was effective in our New York State campaign, which I think will interest you.

I want you to know that we made the atmosphere so hot in this state for the A. A. L. L. that its propagandists lost their temper and fell to

making threats; one of them was that if we defeated Compulsory Health Insurance we would have to take "State Medicine" and we had just such a bill in Albany this year which empowered a Board of Lay Men to take over the control of things medical through "Community Health Centres" which would have the practical effect of making our Boards of Health and other agencies of healing subordinate to those boards and disrupt the hospital organizations by making it possible for any person to have his own doctor attend him in any hospital he might choose and no distinction was made between medical and surgical cases. I sympathize, of course, with the physician who is solicitous of his patient and jealous of any one else treating those whom he has learned to love, however efficient that other doctor might be, but I can readily see that the man who has made neither the sacrifice of time nor the contribution of effort to acquire hospital training and experience, if permitted to carry his own methods into a well organized hospital, would soon demoralize the staff and injure the reputation of the institution itself . . . but that State Medicine Bill sought by fiat legislation to do what you and I know is impracticable.

Then we were threatened that if we refused to do work under a Compulsory Health Insurance Bill, if passed, our licenses to practice Medicine would be expunged under the police power of the State; the Police Power is the broadest power in law but at the time of the threat there was no Law on the Statute Books of N. Y. State which could have made that threat good; a Bill was introduced, however, purporting to be a constructive modification of the existing Medical Practice act but it contained an entering wedge for Birth Control and by providing an apparently innocent change of a \$25 fee to \$50 in the section under which a graduate prior to 1895 (25 years ago) could have his license endorsed *without examination* with the same force and effect as if he had passed an examination revived a *dead law* and made it applicable to those graduating prior to 1895 (of whom there are probably not five whose registration was never perfected or contained a technical defect) but left the remainder of the provisions covering eligibility to examination for license usable, at the discretion of the licensing power, as the alternative remedy for those to whom *re-registration* (under interpolated sections) might be refused under the

exercise of the discretion of the licensing board. Since a license is a privilege and not a right I can see no way of legally or equitably compelling the exercise of that discretion in favor of one who, for instance, had *refused to make the* (Compulsory Health Insurance) *law operative*.

The introducer of that law pleaded for its passage because the State Medical Society had indorsed it, but he and the assembly were informed that the rank and file *did not want it* and it and the State Medicine Bill were killed aborning.

It is significant that the State Medical Society of New Jersey *did not favor or endorse* such a medical practice act but an identical act was introduced in the legislature *just the same*.

The proponents of the hysterical "uplift" legislation including Compulsory Health Insurance who deceived (or acted in collusion with) some of the leaders of the State Society in N. Y. were behind the bill in New Jersey and will be behind it in Illinois and elsewhere.

A good way to punish recalcitrant Medical Citizens who oppose the pet schemes of the Sage and other Foundations to card-index humanity and control them in their most private and sacred functions would be to make the profession of medicine ridiculous and contemptible: Let me tell you a story: In a Southern city the doctors abused the privilege of receiving calls from the stage of the theatre and secured some cheap advertising until it became a nuisance; an actor who knew human nature promised to end it and at the end of the second act the manager came before the curtain and said, "Is Dr. ——— in the house?" whereupon there arose one of the lowest of the "poor white trash," a veterinarian from experience and a doctor from choice of title, and ambled out of the theatre. The practice stopped.

In New York state a bill was introduced legalizing the activity of those who practice Mechanotherapy, massotherapy, electrotherapy, hydrotherapy, neuropathy, naprapathy, diatetics, vibrotherapy, zonotherapy, suggestive therapeutics, magnetic healing, *or any other form of drugless therapy which hereafter becomes known or in use!* We killed it in committee.

The Chiropractic Bill got by the legislature but Gov. Smith promptly vetoed it.

A Narcotic regulation Bill was introduced

which would have encouraged the growth, over night, of a lot of Narcotic Addict Sanitaria (like the Lambert and Towne . . . or Towne and Lambert); that died too. *Why?*

In New York State we have our doctors, dentists and druggists, attached to scientific societies and unattached, organized into professional guilds and associations and centralized through a clearing house committee which has been developed since the first of last August when I started the Professional Guild of Kings Co. and made a pest of myself until I had the professions aroused and working; then I began to spread it through the state, by correspondence, and on April 7, at the hearing on the Davenport Bill at Albany I met some of my correspondents for the first time, *but they came charged with the authority of their own and adjacent counties* and we talked a language which the legislators understood, perfectly; the language of *votes*, punctuated with defeats. . . I am a Democrat and I helped retire ten Democratic candidates for assembly out of the 23 districts in this county on a Compulsory Health Insurance Issue. You remember the doggerel about "someone told the sexton and the sexton tolled the bell"? I told my assembly district chapters about the bill and they told their patients and friends and neighbors and the neighbors "tolled the bell" for the candidates who were disposed, through ignorance or party regularity, to play fast and loose with the public health and throughout that entire campaign not a single Assembly District Chapter (23) of the Guild either endorsed or opposed a candidate, as such, but my goodness! how the "underground telegraph" changed the vote. We met, in every Assembly District Chapter, alternately in the Republican and Democratic headquarters and did not pay a cent for the use of the building; the leaders were very anxious for our good will because, you see, we medical men had awakened to our rights as citizens and our duty to our patients and the state to safeguard the *privilege* of the practice of medicine against the assaults of the forces of unrest which sought to Prussianize it at the behest of an American(?) Association for Labor Legislation which is part of the Labor Internationale which held its congress in Paris in 1901 and was instituted, inspired, financed and controlled by the Imperial German Government for the purpose of breaking down the social, physical and economic forces

behind the lines in those countries which it was intended, later, to subjugate. The mere fact that that purpose failed has not interrupted but simply changed the form of the propaganda and it will be our business to so organize medical men as citizens of their state as well as residents in their state that the campaign in N. Y. will be a continuing one and will spread, in much the same form, throughout the nation.

One thing you must be prepared for: the A. A. L. L. is inaugurating a propaganda through the various church organizations which are honestly seeking the brotherhood of man, but the ministers, poor fellows, are as easy and gullible as the doctors and, like the doctors, they have some false leaders. There are lawyers and "members of the bar"; there are doctors and "M. D's"; there are ministers who preach the word of God and those who practice the will of their paymasters. Here in New York we see this new channel of propaganda being prostituted to the purposes of the A. A. L. L. and the other forces of unrest; you will get it in Illinois. Forewarned is forearmed; let the doctors, dentists and druggists go to church a little more frequently and they will soon recognize it and when they do let them demand that if the church is to become a quasi-political forum rather than a house of worship that the matters be discussed in debate and not "ex parte" and we will drive the false Doctrinaires, the Herr Professors, the Professional Philanthropists and the Busy-Body Social Uplifters and other forces of unrest back to the soap boxes where they belong, and the sooner we do that the sooner, as medical men, shall we have fulfilled our duty to our people and our country.

Heretofore the doctors and other agencies of healing have lived by the motto:

"Let us live for those who love us,
For those we think are true,
For the Heaven that smiles above us,

And the good that we can do."

Beautiful, isn't it? But we need to blend strength with beauty to be efficient and to borrow from the U. S. Marines their slogans, "If you don't know you get killed," and "Treat 'em rough." Then our friends will admire our efficiency and our enemies will respect our force.

Faternally,

JOHN J. A. O'REILLY, M. D.

405 Union St., Brooklyn, N. Y.

THE SUBSTITUTE FOR HEALTH INSURANCE THAT IS BEING ADVOCATED.

IT IS EVEN MORE DANGEROUS THAN THE ORIGINAL SCHEME

THE TITLE OF THE PROPAGANDA IS:

NATIONALIZATION OF THE AGENCIES FOR THE HEALTH-WELFARE OF THE PEOPLE

It provides for, first, the creation of a United States Department of Health-Welfare with a political head in the cabinet, the department activities to include regulation of the professions of medicine, dentistry, nursing and pharmacy and of such other callings as are intimately related to the health-welfare of the people. The department to include the present United States Public Health Service and to create such other bureaus as may be required, among them one known as the Bureau of Standardization, Qualification and Pension.

The creation in each state of a State Health-Welfare Department with subdivisions, such as (a) Administration, Control and Audit; (b) Education, Information, Publicity, Grading, Appointment and Pension; (c) Public Health, Sanitation, Engineering and Physical Properties; (d) Laboratories and Research; (e) Practice, Hygiene, Diagnosis and Therapeutics; (f) Institutions, Hospitals and Dispensaries; (g) Domiciliary and Industrial Service, and such others as the needs of the Department may require.

The State Health-Welfare Service to include doctors of medicine, doctors of dental surgery, registered nurses, licensed pharmacists and morticians, sanitary engineers, architects, chemists, physicists, statisticians, accountants and others.

The State Department of Health-Welfare upon certification by the State Department of Education of the fitness of a citizen to begin professional study directed toward securing appointment in the Health-Welfare Service of the state, to enlist each year for full time paid service as many as it is found the service annually may require. All appointees so entering the service must progress from grade to grade within very narrow time limits and until certified by the State Department of Education that such have qualifications equal to those required today for admission to the legal practice of the particular profession chosen.

The State Department of Health-Welfare with

the State Board of Charities to become custodian of and to control and manage all hospitals, dispensaries and other institutions caring for the health-welfare of the people that are maintained by endowments, public funds and charitable contributions.

A flexible standard of health to be established, preferably by the United States Department of Health-Welfare above the minimum of which all individuals to be considered well.

Compulsory periodic physical examinations of every individual in the state to be established. The individual to have absolutely free choice as to the examiner who, however, must be a graded practitioner of the state.

Establishment of compulsory treatment, *without limitation other than recovery or death*, of those compulsorily examined and found to be below the minimum standard of health, and, of those taken sick. Such findings indicate that the individual's health is a menace to the health-welfare of his neighbor, the community and the state. The sick and below standard individual to have free choice of the practitioner to manage and direct his case, the only requirement to be that the attendant must have the minimum grade for such service.

A compulsory sickness insurance system to be established to provide funds from which certain sums are to be paid to the dependents of those individuals who, by reason of the establishment of compulsory treatment, are compelled to lose the normal income from the industry in which they were employed. The insurance premiums and payments to be determined along actuarial lines and not as today by haphazard public welfare and organized charity allowances.

To meet the cost to the state of such a scheme as outlined, the State Department of Health-Welfare to take over the proceeds from all endowments, incomes, investments, contributions and other sources of support now controlled by the educational institutions, hospitals and other institutions to be included in this scheme as well as any similar funds that in the future may be acquired for such purposes.

To meet any deficit arising from carrying out such scheme every individual in the state to be taxed from year to year for its maintenance.

When institutions are taken over by the state no discrimination to be practiced against those

upon the teaching staffs of educational institutions and upon the attending staffs of hospitals and similar institutions who desire to continue thereon. All new appointments to be made from grade after examination.

Note: Any person with brains enough to fill a thimble can readily see that this scheme is illegal, that before it could become operative it would require amending the constitution of every state in the Union. We wonder what the pack of addle-pated fools are going to try next?

We wish to emphasize the purport of a resolution enacted at the state meeting at Rockford (on recommendation of the State Health Insurance committee) to the effect that "we recommend to the doctors of Illinois that in the future they should be very careful about loaning their endorsement to any of these un-American schemes.

PHYSICIANS' FEES NOT INCREASED PROPORTIONATELY.

The index number of wholesale prices in the United States as ascertained by the Bureau of Labor Statistics for a larger number of articles than any other currently published series shows that prices continued to increase very considerably during March. Placing the index number of wholesale prices for 1913, at one hundred, we have the following increase noted for various groups of commodities in March, 1920:

Group of Commodities:	
Farm Products	239
Food, etc.	246
Cloths and Clothing	355
Fuel and Lighting.....	192
Metals and Metal Products.....	192
Lumber and Building Material.....	325
Chemicals and Drugs.....	205
Housefurnishing Goods	329
Miscellaneous	230
All Commodities	253

Another group prepared by the Bureau of Crop Estimates of the Department of Agriculture showing the average prices received March 1, 1914, and March 1, 1920, shows the following increases:

	Per cent
Cotton	200
Wheat	173
Corn	116
Potatoes	244
Hay	91

Eggs	96
Butter	115
Wool	231

The average increase in cost in the latter group to the producers, not the consumers of the eight staple products mentioned, is 158 per cent.

If the fees of physicians had advanced at the same rate, doctors who in 1914 received \$2 per call, should now charge \$5.16; physicians who in 1915 received \$3 per call, should now charge \$7.75.

Every physician must use seven of the eight products enumerated in the latter table, the one he will not use is hay, which increased the least.

The attention of the profession and the public should be forcibly impressed with these facts. If this were done it will facilitate the adjustment of increased physicians' fees which must be paid.

INFLUENZA MORE DEADLY THAN WAR.

The insurance press for September, 1919, is authority for the statement that ten persons died from influenza in 1918 to each American soldier killed in battle. The mortality rate with which the American Life Insurance Companies were confronted during 1918 were about 32 per cent greater than in 1917. The number of deaths due to influenza in the United States is rated at 500,000 for the year. Seventy per cent. of the previous years victims were between the ages of 15 and 45. No satisfactory explanation has thus far been given for the attraction shown by the germs towards persons of a certain age.

Public Health

DIAGNOSTIC LABORATORIES

With the incidence of communicable disease throughout the state comparatively low, the Diagnostic Laboratories of the State Department of Public Health performed a larger service during the first quarter of the year 1920 than for any similar period in any preceding year. Comparing the first three months of 1919 with the first quarter of 1920, we find an increase of 100 per cent. in sputum specimens examined for the presence of tubercle bacilli; 100 per cent. in Widal tests for typhoid fever; 134 per cent. in swabs from the throat for diphtheria; 411 per cent. of smears for the detection of gonococci, and an increase of 583 per cent. in Wassermann tests.

In actual numbers the specimens examined during the three months ending March, 1920, were:

Diphtheria swabs, 501; Widal tests, 345; smears for gonococci, 430; sputum specimens for tubercle bacilli, 1681, and Wassermann tests, 3,514.

COUNTY TUBERCULOSIS CLINICAL SERVICE

As a part of the program for the control of tuberculosis in Illinois, carried out jointly by the State Department of Public Health and the Illinois Tuberculosis Association, a clinical consulting staff has been created and a campaign of clinical meetings under the auspices of County Medical Societies is now being carried on.

During the month of May clinical meetings before county medical societies were held in over twenty counties, into fourteen of which the State Tuberculosis Association, working in conjunction with the Chicago School of Civics and Philanthropy, sent specially qualified nurses to conduct tuberculosis surveys, in co-operation with the local medical profession.

The largest of these clinical meetings was held at Edwardsville on May 26th, under the auspices of the Madison County Society, with the members of medical societies of five adjoining counties as specially invited guests.

INCREASED CHILD WELFARE WORK

The Division of Child Hygiene and Public Health Nursing of the State Department of Public Health reports that the clinic for crippled children at Freeport has already registered 200 patients from Stephenson, Carroll and Jo Daviess Counties. The city of Freeport recently raised \$10,000 for volunteer public health work and has developed an extensive child welfare program.

Nutrition classes have been established in practically all schools, and all school children are subjected to physical examination and mental tests. A visiting housewife nurse has been employed to visit the homes of children suffering from malnutrition and to instruct the mothers in regard to their feeding and care.

At Streator and Princeton, where one-half day clinics were originally held for crippled children, the demand has become so great that it is now necessary to devote a full day to each of these communities. Each of these clinics is now receiving from thirty to forty crippled children on each clinic day, and the success is largely attributed to the enthusiastic support given by the members of the medical profession.

ROCKFORD SURVEY REPORT

The complete report of the sanitary survey of the city of Rockford, carried out by the Division of Surveys and Rural Hygiene of the State Department of Public Health, has been printed and

is now available for those interested in it. The edition is limited, but copies will be sent without charge on application to the State Department of Public Health, Springfield.

ADAMS COUNTY TUBERCULOSIS SANATORIUM

The Adams County Tuberculosis Sanatorium at Quincy was opened early in May, with a capacity of 25 patients.

Society Proceedings

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting May 5, 1920

1. Control Methods in the Treatment of Diabetes Mellitus.
Solomon Strouse.
2. Tuberculosis of the Abdominal Peritoneum.
Walter B. Metcalf.
3. Heart Valve Syphilis.
John Weatherston.

Regular Meeting

1. The Nursing Situation as Affected by the Recent Opinion of the Attorney General.
Chas. E. Humiston,
Legislative Committee Illinois State Medical Society.
2. The Nursing Problem, a Suggestion for Its Solution.
Edward H. Ochsner.

Discussion:

M. L. Harris, President,
Illinois Hospital Association.
Prof. Francis Shepardson, Director,
Board of Registration and Education,
Springfield, Ill.

John Dill Robertson,
Commissioner of Health.

Regular Meeting, May 26, 1920

Joint Meeting of the Chicago Medical Society and the Chicago Ophthalmological Society

1. The Importance of Early Treatment for Strabismus.
Dwight C. Orcutt.
2. Preventable Blindness. Illustrated with Stereopticon Slides.
Richard J. Tivnen.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of Oct. 13, 1919 (Concluded)

Under mydriasis the following was noted: Pupil dilated equally and mildly; media negative; disc apparently small; temporal side well defined; nasal side slightly hazy, but not due to exudate, but as if unable to focus ophthalmoscope perfectly, which the speaker believed was due to its distorted position. The disc protrudes forward about six D. Vessels are clean cut, slightly tortuous, but in direct ratio to the

forward position of the disc. There are no evidences of a perivasculitis, or fluid stasis. The fine feathery arrangement seen in inflammation is absent. The forward protrusion of the disc includes more than the nerve head, and I should say it also includes the posterior pole of the eyeball, as if something hard was pushing it forward.

Retinoscopy R +10.00
 +10.50 +9.50 Sph. 15/25.
 L. +2.75
 +3.25 +1.75=50 cx 90 15/15

It would appear that this degree of hyperopia was artificial. X-ray pictures (flat pictures) disclosed nothing. Two sets of stereos added nothing to our knowledge.

BUPHTHALMOS, SECONDARY TO OPHTHALMIA NEONATORUM

Dr. Goldenburg also reported the following case:

Case II. The next case is a baby that came into his clinic August 1, 1919, with the following history:

At that time the child was one year of age. The baby was born at home. The mother does not know if drops were instilled at the time of birth. On the second or third day pus appeared in both eyes. This was treated as far as she knows with argyrol. Bacterial examination made when the child was three weeks of age disclosed the presence of the diplococcus of Neisser. When six weeks of age the pus disappeared. At this time bulging was already noticed. The child was then treated with two per cent. atropin until 9 months of age. For the past three months the child has received no treatment.

Upon examination a leucoma adherens was found on both eyes, with nystagmus. Both eyes were very large and the left much more so. Tension was markedly increased. The anterior chambers were obliterated.

Upon discussing the case with the other men in the service as to what could possibly be done for this child, the idea that first occurred to the speaker was that of reducing the tension with the hope of at least saving the optic nerve and possibly later trying some corneal surgery of which he hoped to say more at some future time. Then again it was known that some of these leucomata do clear up to some extent. It seemed to be worth while trying, and on August 10, 1919, the child was prepared for an intraocular operation. Ether anesthesia was used. A conjunctival flap was made with the idea of doing an iridoptosis operation. A small keratome incision was then made about two millimeters back of the limbus and an iris forceps was inserted, but the iris was so bound down that nothing could be accomplished. The speaker then went in with a small blunt hook and loosened up the iris, which seemed sufficient, but still he could not pull the iris out and decided to do an iridectomy. The child made an uneventful recovery. We now have an anterior chamber, the tension is surely lower than the left eye, and the mother is sure the child is able to recognize objects. The nystagmus seems to be somewhat reduced.

DISCUSSION

DR. BULSON asked whether there was any limitation to the movement of the eye.

DR. GOLDENBURG replied, apparently not.

DR. GEORGE F. SUKER asked what the patient's vision was at the present time.

DR. GOLOENBURG replied, 16/25 with the correction.

DR. OLIVER TYOINGS asked what the correction was now.

DR. GOLOENBURG replied, 9½ D.

DR. BULSON asked as to the condition of the vascular system.

DR. GOLOENBURG replied, he has no tachycardia; no possible exophthalmic goiter; no Graef; no Moebius. Three years ago his vision without glasses was just the same as the left eye. The process started about three years ago.

He would like to ask whether any of the members were willing to suggest what should be done for the proptosis case, or should it be let alone? He was inclined to think that a neoplasm existed within the muscle cone which seemed to be pressing the posterior pole of the eyeball forward producing the apparent bulging of the disc.

DR. GEORGE F. SUKER stated that inasmuch as the patient still had approximately 20/20 vision and, after carefully scrutinizing the two former photographs of the case, he labored under the impression that the right eye was not at that time in the same position as the left one. Taking this fact into consideration and the clear media the patient has, there was no doubt something could be done. The little swelling of the disc was suggestive of an infiltration, such as one would see in a beginning papilledema. The eyeball can even now be pushed back into the socket without any particular pain. At the present time the only thing he considered feasible and justifiable was a modified Kronlein operation so as to have a large field for exploration. He did not think it was feasible to do a canthotomy and explore the orbit in this way as one might do more damage to muscles and increase the proptosis more than it was at the present time. He thought one would be safe in doing a Kronlein; but, the patient should be kept under observation for a considerable time; and, as long as vision could be maintained at the present point without undue suffering or disfigurement, he would advise to leave the eye alone.

DR. OLIVER TYOINGS suggested that the patient be put on desiccated thyroid. He also asked as to the possibility of syphilis.

DR. GOLOENBURG replied he did not know as to syphilis.

DR. TYOINGS said that if the case was syphilitic it would be well to combine the desiccated thyroid with mercury and other agents. He would put the patient on iodine or desiccated thyroid and use it to the full limit before undertaking an operative procedure.

SIDEROSIS BULBI

Dr. Alfred N. Murray reported the following case: The patient whose case he reported came under his observation a week ago. There has not been much chance to study it, but there are a number of interesting aspects about it, such as the history of the case, the location of the foreign body, as demonstrated by the x-ray, and the condition itself—siderosis bulbi. This man was boring on a one-inch plate of steel with a bit when some particles of steel flew off. This was on January 6, 1919. At the time it was recognized at the factory that there was a foreign body in his *right* eye. No attention was paid to the left eye. About the third day after the injury there was a slight irritation of the left eye and some slight blurring of vision. The blurring continued and increased until about the fifth month, when the vision was almost completely gone in the left eye. He could recognize movement of the hand at that time, that is, in June, but since then the vision has been reduced to faulty projection. There has been scarcely any irritation of

the eye during this entire period, except for the first few days following the accident. The location of the foreign body was demonstrated by the Sweet chart as being ten millimeters back of the cornea and seven millimeters to the temporal side; therefore, suspended in the vitreous. The x-ray picture showed it to be about a millimeter in all of its diameters. The probabilities are the preliminary loss of vision was due to a slight hyalitis which gradually increased; encapsulation of the foreign body following. In course of time low grade choroiditis developed, followed by lenticular changes which resulted in a total cataract.

The condition of siderosis bulbi is an unusually interesting one, and is seen only with maximum dilatation of the pupil. This case shows very clearly 13 distinct round, rust-colored spots, corresponding quite well to the position of hours on the dial of a clock, and arranged quite symmetrically. On close examination with the loupe, there are to be seen some fine, irregularly distributed, dust-like spots at the lower part of the lens. All of these spots are underneath the capsule of the lens. They are shown only with full dilatation of the pupil. The lens is cataractous, but it is more or less a diffused cataract, the lens striae not being visible. He has advised enucleation of the eye, on account of the possibility of sympathetic ophthalmia. It is to him a very unusual and interesting case. In twenty years he has not seen any case which so beautifully shows the symmetry of the dots. In this case the siderosis involves not only the lens, but the iris as well. When the pupil is not dilated the iris presents a rusty color, not a normal greenish or brownish color, but what impresses one as a pathologic coloring.

There is no question whatever in the mind of any one after seeing this iris in comparison with the iris of the other eye but what this is a comparatively recent abnormal condition and not a condition of heterochromia iridis.

He should be glad to have the members offer any suggestions they might have regarding this case. To him it is a perfectly clean cut case, with the history of an injury and development of this condition called siderosis, which is a rare condition and not much more than mentioned in most of the textbooks.

The speaker was not able to account for the development of complete cataract in this case, or as to why it should have occurred without direct injury to the lens, unless it developed as a consequence. Assuming the foreign body is seven millimeters to the temporal side, that would bring the point of perforation about the limbus, in which case it would not have penetrated the lens itself, but the zonule—that is, assuming that it flew directly at the eye.

DISCUSSION

DR. BROWN asked whether there was any pain or inflammation at the time.

DR. MURRAY replied, no.

DR. HARRY S. GRADLE asked where the foreign body struck the eye and the site of perforation.

DR. MURRAY replied that he could not find the site of perforation. The foreign body was but a millimeter in diameter. There is no scar in the cornea.

DR. GRADLE asked whether there was any history of previous trauma to the eye.

DR. MURRAY replied that there was not.

DR. GRADLE said the spots symmetrically arranged might be the result of a sudden blow on the anterior portion of the eye.

DR. MURRAY replied that that would not account for the colored spots, and the color of the iris, which was similar to the color of the spots in the lens.

DR. GRADLE said it seemed to him that the coloring of the spots was unusually red for siderosis. He had seen cases of siderosis and the spots were not exactly that color.

DR. MURRAY replied, the rust spots could be dark or light. There might be a variation in intensity. The lens was cataractous, which might alter the color by contrast.

DR. GRADLE said they were uniformly red and of hyalin consistency. This might be a superficial observation. He would like to ask Dr. Murray how he made the diagnosis of siderosis and excluded some of the other conditions that might be confounded with it?

DR. MURRAY replied that nothing but siderosis could produce such a picture as this; the siderosis of the iris positively confirming the diagnosis. Hemorrhage could produce that appearance of the iris, but it could not produce these symmetrically arranged spots under the capsule of the lens.

DR. GEORGE F. SUKER said he would like to ask Dr. Murray a hypothetical question. Might it not be a case of heterochromia? He agreed with Dr. Gradle that the color was too intense to be siderosis. Might it not be a case of cataracta punctata rubrum and the foreign body simply producing a traumatic cataract in addition? Maybe the patient did have normal vision at one time.

He asked this question for the reason that a year ago in May it was his good fortune to examine a soldier who had 20/20 vision, and on dilating the iris he found red spots underneath the anterior surface of the capsule of the lens. This soldier went abroad, and when he returned he had a traumatic cataract. The red spots in the lens of this soldier were identical with the ones seen in Dr. Murray's case. He also had heterochromia. These rust colored spots did hardly result from the dissemination of oxidized iron. For, the foreign body was only one millimeter ground, and these thirteen or so spots are much larger than a millimeter by a good deal, and it was hardly to be supposed one millimeter of substance could give such numerous oxidization spots. Cataracta punctata rubrum is always underneath the anterior capsule of the lens and usually in the periphery. Furthermore, the lens might have been injured because it appeared to him the lens was subluxated from swelling or otherwise, because the anterior chamber was obliterated at one angle. The fact that the iris dilated at maximum and presented these red colored spots was somewhat unusual unless it was a congenital affair, because in the majority of cases of siderosis bulbi in which deposits have taken place there was more or less immobility of the iris, and more or less localized traumatic iritis, and consequently a destruction of the iris tissue. If the iris was intact he was inclined to believe there was a double lesion, a congenital cataracta rubrum as well as a secondary traumatic cataract. From a hasty examination he should take it to be a case of cataracta punctata rubrum with a penetrating foreign body causing the secondary conditions. It appears that these rust colored spots in Dr. Murray's case are underneath the capsule, while in siderosis the spots are usually on top of the capsule.

DR. ROBERT VON DER HEYDT, in referring to the remarks of Dr. Gradle, who mentioned the possibility of a previous blow to the eye, and suggested the condition might be one of "Vossius Ringtrübung, although he did not use that term, said, "In the latter condition there is a ring of deposit on the anterior lens capsule, composed of blood coagula, iris debris and pigment due to the impact. However, in the case shown by Dr. Murray we have these spots under the capsule. They are proliferations of the lens epithelium and have taken up the iron oxid. The case is one of siderosis bulbi, the dots a rare manifestation, however clinically recognized and described by many authors, including de Schweinitz and Axenfeld."

DR. MURRAY said if there was any one present who could

answer the learned and hair-splitting hypothetical question of Dr. Suker he would thank him for doing so.

The history of this case, he said, spoke in favor of siderosis bulbi. In a congenital condition it was not uncommon to have both eyes involved, in the majority of cases. If one found the condition in one eye, he was likely to find it in the other, and to find other earmarks of congenital defects. If Dr. Suker could see the undilated pupil there would be no question whatever that this was a pathologic appearance of the iris and not a heterochromia iridis.

As to perforation of the lens, the localization showed that it must have perforated the zonule. He did not think it would penetrate the lens itself in that location unless it went diagonally through. Considering the injury and the fact that the man's vision began to blur three days thereafter, and became gradually reduced in five months to hand movement, it certainly speaks for a traumatic condition.

As to congenital cataract he saw no reason why that should show up in five months. The man's vision was normal until the accident. He had never noticed a difference in the color of his eyes. While the speaker wanted to consider every possible aspect of the case, it was still his opinion that the case was one of siderosis bulbi. Since there was a foreign body in the eye as shown and localized by the X-ray, known to be metal, following a definite injury, a certain length of time elapsing between the injury and the development of visible signs so absolutely characteristic of siderosis bulbi, with symmetrically arranged round rust colored spots, seen only when the pupil was dilated to the maximum, he was willing to stake his reputation on the fact that it was a case of siderosis bulbi.

DR. SUKER stated that Dr. Murray had misunderstood him, in that he did not say the case was one of congenital cataract but a cataractous process due to the injury which the man had received. One could have cataracta punctata rubrum with normal vision. He had seen three such cases in which the condition was unilateral. The soldier he had referred to was in the Walter Reed Hospital under the charge of Dr. de Schweinitz who studied the case very carefully. The case was considered by Dr. de Scheinitz as a novel one, and the cataract the man had received was the result of concussion. When he saw the iris the year before he had these spots with a clear media, and they were underneath the anterior capsule of the lens.

DE KALB COUNTY

May 12, 1920, the DeKalb County Medical Society met at the Glidden House, DeKalb, Ill., with 26 physicians present. Among our guests for dinner were Dr. W. D. Sansum of Chicago, the speaker of the day, and a delegation of seven physicians from Will County Medical Society.

Dr. Anna Gloss, returned Medical Missionary, sent up an exhibition of Chinese medicines and surgical instruments, which showed the primitive nature of the Healing Art in China.

Each member of the Will County delegation favored us with a short address, speaking of the conditions that confront the small towns and country practitioner which physicians in large cities often fail to appreciate. All boosted for more friendly relations between physicians and admonished us to take more interest in local affairs.

Dr. J. P. Kane introduced a resolution, known as Proposal Number 300, which, if incorporated in the new Constitution of Illinois will grant equal privileges to all in the practice of the Healing Art for pay and special privileges to none. Adoption moved by Dr. J. P. Kane and seconded by Dr. J. M. Everett; carried.

Dr. Florimond LeBlanc was unanimously voted into the society.

We then listened to a splendid address on "Dia-

betes" by Dr. W. D. Sansum of Chicago. - Dr. Sansum presented us each with a mimeographed folder giving tests, charts, etc., which enabled us to follow his lecture better.

Meeting adjourned amid general expressions of appreciation of the instructive program.

LA SALLE COUNTY

The La Salle County Medical Society held its sixty-eighth semi-annual meeting at the County Tubercular Sanitarium, Ottawa, April 20, 1920.

The following program was given:

General Business.

"Colic in Breast Fed Infants," Dr. Clifford G. Grulee, Chicago.

A talk on "The Clinical Differentiation of the Cardiac Arrhythmias," Dr. N. C. Gilbert, Chicago.

"Diagnosis of Incipient Pulmonary Tuberculosis," Dr. F. J. Maciejewski, La Salle.

Demonstration of an Artificial Pneumothorax, Dr. Ethan A. Gray, Chicago.

The La Salle County Medical Society in convention assembled in the city of Ottawa, April 20, 1920, after due consideration has adopted the following resolution,

WHEREAS: The Constitutional Convention of the State of Illinois is now considering the importance of presenting a constitution. It is just that provision should be made for the care and attention of the unfortunate people who are sick.

RESOLVED: That any and every one who professes to treat the sick should present the same qualifications. Be it further,

RESOLVED: That no power shall exist to impose, hereafter, any term or restriction or give power to any person or persons to treat or undertake to treat any ailment, infirmity or disease of another for pay, reward or compensation, upon any different terms, limitations, qualifications or prerequisites from those granted or limited to every other person or persons, who may hereafter be licensed to undertake to treat or cure the sick or infirm, or to preserve from sickness or infirmity, persons within the state. Be it further

RESOLVED: That a copy of these resolutions be sent to Dr. E. B. Coolley of Danville and that our delegate be instructed to inform the Medico Legal Committee of this action.

J. W. EDGCOMB,

E. W. WEIS,

WM. SCHOENNESHOEFER.

After the completion of the program the Ottawa Physicians Club entertained the members at dinner.

MADISON COUNTY

The Madison County Medical Society met, at Edwardsville, on Friday, April 2, 1920, with Dr. F. O. Johnson, president, in the chair.

Proposal No. 300 was read and the secretary was instructed to write to H. F. Lill, of East St. Louis, asking him to support the proposal. It was also ordered that every member write to our delegates, J. J. Brenholt and C. J. Lindley, soliciting their active

support for this measure. On motion of Dr. W. H. C. Smith the society went on record as heartily endorsing this measure and promising our loyal support.

The committee on resolutions on the death of Dr. H. R. Lemen presented its report which was adopted. (Published in May JOURNAL.)

The committee on revision of Constitution and By-laws made its report which was adopted and the secretary instructed to have 200 copies printed and distributed.

On motion Louis Beaman was admitted to the Harrison Colony at the expense of our association.

On motion of Dr. W. H. C. Smith, it was decided that we request the Board of Supervisors to defray the expenses of the care of indigent tuberculosis patients at the Harrison Colony to the extent of the cost of their support at the County Hospital.

The Community Nurse read her report for the month of March, which was ordered filed.

Dr. Willard Bartlett, of St. Louis, then read a paper on "Goitre Surgery," detailing the result of from 400 to 500 operations. The paper was full of interest and instruction and was received with marked attention by all who were present.

A rising vote of thanks was tendered to our distinguished speaker, after which the society adjourned.

OGLE COUNTY

The Ogle County Medical Society met in the town hall in Mount Morris at 1:30 P. M., Wednesday, May 5, 1920. Roll call found nine members and three visitors present. Dr. W. F. Kittler presiding. Minutes of the previous meeting was read by the secretary and approved. Dr. Curtis Powell, of Polo, was admitted to membership.

Owing to heavy rains and bad roads the meeting was postponed three times and in view of these facts the meeting was a success.

Motion made—that the secretary be instructed to write Jas. Nickoles and Bruce Garrett, members of Constitutional Convention, requesting, in the name of the Ogle County Medical Society that they support proposal No. 300 in the Constitutional Amendment. Motion carried.

Dr. N. B. Harlin, of Freeport, read an interesting and instructive paper on "The Frequent Inability of the Modern Mother to Nurse Her Infant and the Reason Therefore." The discussion that followed this paper brought out many good points for the obstetrician to follow.

Dr. J. Sheldon Clark, of Freeport, read an able paper on "What Should Be the General Practitioner's Attitude In the Case of Acute Mastoiditis?" This paper was well received and in the discussion many good ideas were brought out.

On motion of Dr. Beveridge, a vote of sincere thanks and appreciation were given, by rising vote, to Drs. Clark and Harlin for their well received papers.

Adjourned to meet in Oregon at the next regular meeting to be held in July, 1920.

Dr. J. T. KRETSINGER, Secretary.

PIKE COUNTY

The Pike County Medical Society met in Pittsfield, Thursday, April 22, 1920. There was a good attendance and much interest shown in the program. After a good dinner at the cafe the society adjourned to the city hall for the scientific part of the day's work.

The annual election of officers for the ensuing year took place with the following result:

J. E. Goodman, Pleasant Hill, president.

W. J. McConnell, Baylis, vice-president.

W. E. Shastid, Pittsfield, secretary-treasurer and delegate.

F. N. Wells, Pittsfield, alternate.

The society unanimously endorsed the resolution known as Proposal No. 300, which means that the Constitutional Convention is urged to adopt in its new laws the proposition, "that there will be but one door to the privilege of practising the healing art for remuneration."

Dr. Carl Black, of Jacksonville, then presented a thoughtful and comprehensive paper on, "Thoughts On the Cancer Problem," which received much attention and discussion.

Dr. Frank Norbury, of Jacksonville, then read a paper on "Cerebral Topography and Localization," which showed much scholarly research and was illustrated by drawings.

Both of these physicians received a vote of thanks for their splendid efforts, from the society.

The next meeting will be held at Pleasant Hill.

W. E. SHASTID, Secretary.

ST. CLAIR COUNTY

The St. Clair County Medical Society met in regular session in the Chamber of Commerce rooms, Murphy Building, East St. Louis, Illinois, May 6, 1920, at eight o'clock P. M. Thirteen members and two guests were present.

Minutes of April meeting approved as printed in May BULLETIN.

The treasurer reported \$305.28 in treasury.

Secretary reported one hundred and fifteen members in good standing and sixty-eight physicians in the county not affiliated with any medical society.

A report of the censor, relative to conduct of St. Clair County physicians in attendance at A. M. A. meeting in New Orleans, was read and briefly discussed.

Dr. W. S. Wiatt read a paper on "Carcinoma of the Ceco-Colon" and exhibited some radiograms with case reports. The paper was interesting and instructive, and was discussed at length by the members.

Upon motion of Dr. Lillie, Drs. W. S. Wiatt and M. F. Arbuckle were elected honorary members of the society.

No further business appearing, the society adjourned.

WALTER WILHELMJ, Secretary.

WOODFORD COUNTY

The annual meeting of the Woodford County Medical Society was held in the court house at Eureka, Tuesday, May 4, at ten o'clock A. M. Meeting was called to order by Vice-President J. I. Knoblauch. Seven members were present.

Minutes of previous meetings read and approved. Secretary-treasurer report read and approved as read. Proposal No. 300 as presented to the Constitutional Convention by the state committee was read and was approved unanimously.

It was moved and seconded that the president appoint a committee of three to draft resolutions on the death of James Tweddale, H. N. Barth, H. B. Perry and C. F. Banta. Motion carried. The president appointed the following named members on this committee: J. I. Knoblauch, S. M. Burdon and F. W. Nickel.

It was proposed that we revise our Constitution and By-Laws and that we change the date of our annual meeting from the first Tuesday in May to the first Tuesday in December and that we hold one regular meeting the first Tuesday of each month. It was moved and seconded that the proposal be adopted and that the president appoint a committee of three to draft changes in accordance with the proposals. Motion carried unanimously. The president appointed F. W. Wilcox, J. I. Knoblauch and H. A. Millard on this committee to report at the June meeting. It was then moved and seconded that we have no election at this meeting and that the old officers hold over till the December meeting. Motion carried.

Applications of the following named doctors for membership in the Woodford County Medical Society were received and referred to the board of censors. F. D. McNertney, A. E. McReynolds and R. T. Rodawar. Adjourned for lunch.

Called to order at one o'clock by President F. W. Wilcox. Influenza, Complications and Sequela was discussed with interest and enthusiasm by all present.

It was decided to hold the June meeting in Minonk. Subject for discussion to be "Acute Infectious Diseases."

On motion adjourned.

H. A. MILLARD, Secretary.

Personals

Dr. Arthur F. Stotts, Galesburg, who was shot, May 8, is reported to be improving slowly.

Dr. J. Warren Van Derslice, Oak Park, has been elected president of the Colonial Club, Oak Park.

Dr. Frank P. Norbury, Springfield, has been appointed neuropsychiatrist to the Wabash Railway System.

Dr. J. Forrest Bell of Elgin delivered the

graduation oration at the Sherman Hospital nurses' school, May 6.

Dr. Charles Louis Mix has accepted the position as head of the department of medicine of Loyola University School of Medicine.

Dr. Elmer L. Crouch, Jacksonville, has become medical director of the Sanatorium for Nervous and Mental Diseases at Stamford, Conn.

Drs. C. Hubart Lovewell and Elmer E. Simpson were overcome by fumes from a gas heater while attempting to revive patients who had been overcome by gas.

William Gardner Cottrell, Ph.D., was awarded the tenth William Gibbs Medal at a dinner tendered by the Chicago Section of the American Chemical Society at the City Club, April 21.

Free eye clinics are being established under the auspices of the State Department of Public Welfare and the Eye Department of Northwestern University School of Medicine. The first clinic was opened at Mt. Vernon, May 10.

Dr. Wesley Hamilton Peck, formerly president of the ophthalmologic section of the Illinois State Medical Society, was presented with a silver loving cup at the Rockford meeting, May 19, as an appreciation of his efforts in behalf of the section. Dr. Willis O. Nance made the presentation address.

News Notes

—The Elgin Physicians Club re-elected the former officers, May 4, for another year.

—Piatt County is said to have let a contract for a Tuberculosis Sanitarium at Monticello to cost \$50,000.

—The physicians of Clinton have decided to close their offices Thursday afternoons and evenings during the summer.

—Dr. S. A. Thompson has purchased a 25-acre tract of land and a residence in Mt. Vernon for a temporary hospital.

—Following its custom of recent years, the JOURNAL presents its readers with the portrait of the new president of the society.

—The Rock Island County Board of Supervisors has voted \$6,000 for the establishment of a venereal disease clinic in the county. The state will appropriate \$200 a month toward the upkeep of the clinic.

—On May 26, 1920, the Chicago Polish Medical Society entertained Dr. Wladyslaw A. Kuflewski, the organizer, life member and former president of said Society, on the 50th anniversary of his birthday.

—Adams County has recently opened a tuberculosis sanatorium at Quincy with a capacity of twenty-five patients. It is under the charge of Dr. Harry C. Worthington, formerly senior physician at the Cook County Tuberculosis Hospital, Oak Forest.

—A site for the McDonough County Tuberculosis Sanitarium has been purchased at Bushnell, the consideration being \$2,000. Ground has been broken for a new nurses' home, which is being erected at a cost of \$125,000. The plan calls for a three-story brick building which is to be thoroughly modern.

—The Howard Taylor Ricketts Prize of the University of Chicago for 1920 has been awarded to Ivan C. Hall for his work on "Studies in Anaerobiology." This prize is awarded annually on May 3, the anniversary of the death of Dr. Ricketts from typhus fever, while engaged in work on this disease in Mexico City in 1910.

—The Illinois State Tuberculosis Association and Chicago School of Civics are cooperating in an interesting nursing experiment. Fourteen nurses from the class of public health nursing have been assigned for the month of May to make an extensive health and sickness survey in fourteen counties of the state. By this plan it is hoped to develop a knowledge of the tuberculosis situation and to induce the counties to support permanent public health nurses.

—More than 100 medical officers who had served during the World War assembled in Rockford May 19, at the call of Dr. John M. Dodson, Chicago, and organized the Illinois Chapter of the Medical Veterans of the World War, electing Dr. Joseph R. Hollowbush, Rock Island, as vice president for Illinois of the national organization and chairman of the state chapter; Dr. Wilbur H. Gilmore, Mount Vernon, secretary-treasurer, and Drs. Malcolm L.

Harris, Chicago, and Samuel M. Wylie, Paxton, councilors.

—During the summer quarter, June 21 to August 28, 1920, at Rush Medical College, there will be given a didactic, clinical and conference course on Tuberculosis every Wednesday and Saturday morning from nine to eleven o'clock.

The instructions will be of an essentially practical nature followed by a thorough study of the diagnosis and treatment of the various forms of tuberculosis. This course of instruction is in charge of Dr. John Ritter, Assistant Professor in Medicine, ably assisted by members of the dispensary staff.

The course is open to practitioners of medicine interested in this topic. For particulars address Rush Medical College, 1748 W. Harrison St., Chicago.

—A report from the director of registration and education of Illinois states that twenty-five chiropractors have been enjoined by the circuit court of Rock Island County from treating human ailments without state licenses. These twenty-five chiropractors are members of Class "A" of the Universal Chiropractors' Association with headquarters at Davenport, Iowa. The Class "A" members of this association pay a membership fee and quarterly dues. In consideration of the payments, the association pays all fines assessed against them by the courts in Illinois for practicing without licenses. It also pays the fees of attorneys for defending them. When a chiropractor is fined in the courts he is advised by the officers of the association to continue in his unlawful practice. The circuit court of Rock Island has temporarily enjoined these chiropractors from treating human ailments without licenses and has also enjoined them from carrying out the terms of their unlawful agreement with one another.

Marriages

WILLIAM SIMON CROWLEY to Miss Ethel Roth, both of Chicago, April 28.

GEORGE MICHAEL FITZGERALD to Miss Eileen Phelan, both of Chicago, recently.

JACOB A. KOHN to Miss Jeanette Herma Schultz, both of Chicago, May 6.

JESSE HENRY ROTH, Kankakee, Ill., to Miss Josephine McAuley of Chicago, recently.

CHARLES KLAUS STULIK to Miss Zdenka Spatney, both of Chicago, May 10.

FREDERICK J. EBERSPACHER, Pana, Ill., to Miss Irene Hoyer of West Bend, Wis., April 28.

Deaths

JAMES CASE BRIXEY, Chicago; College of Physicians and Surgeons, Chicago, 1905; died, April 22.

A. THOMAS BUCHANAN, Chicago; St. Louis Medical College, 1872; aged 78; a veteran of the Civil War; died, April 22.

VICTOR H. PARKER, Carmi, Ill.; Jefferson Medical College, 1876; aged 67; died in a hospital in Jacksonville, Fla., April 6, from cardiorenal disease.

JAMES B. PATTERSON, Rockford, Ill.; Jefferson Medical College, 1862; aged 80; who fell March 2, fracturing his hip, died from senile myocarditis, April 2.

FRANKLIN A. WEATHERFORD, Chicago; College of Physicians and Surgeons, Chicago, 1895; a Fellow, A. M. A.; aged 54; died, May 2, from cerebral hemorrhage.

JAMES EDWARD EARLE NELLES, Oak Park, Ill.; University of Illinois, Chicago, 1907; aged 35; who served with the Canadian Army Medical Corps in England; died, March 12.

WILLIAM H. WELLS, Buckingham, Ill.; University of Louisville, Ky., 1883; aged 66; a member of the Illinois State Medical Society; died, April 30, from chronic bronchitis.

WILLIAM L. DOWNEY, Wenona, Ill.; Medical Department University of Iowa, Keokuk, 1865; aged 82; a veteran of the Civil War; for many years a drug-gist; died, April 7.

HARL L. GEE, Mount Vernon, Ill.; Washington University, St. Louis, 1898; aged 45; a member of the Illinois State Medical Society; died, April 26, from pulmonary tuberculosis.

JULIUS A. GOLTZ, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; a Fellow, A. M. A.; aged 67; died, April 1, from cirrhosis of the liver.

ZEEA DARLING FRENCH, Lawrenceville, Ill.; University of Iowa, Keokuk, 1865; aged 82; surgeon of the Third U. S. Volunteer Cavalry (colored), during the Civil War; died, April 27.

ARTHUR O. SAX, Chicago; Hahnemann Medical College, Chicago, 1897; a Fellow, A. M. A.; aged 52; professor of theory and practice of medicine in his alma mater; died, April 23, from valvular heart disease.

PERSIS WHITE, Winnetka, Ill.; Northwestern University Woman's Medical School, Chicago, 1894; for eight years resident physician at the North Shore

Health Resort, Winnetka; died, May 20, in St. Mary's Hospital, Rochester, Minn.

ALEXANDER WALLACE AIKEN, Chicago; University of Toronto and Trinity Medical College, Toronto, 1895; a Fellow, A. M. A.; aged 49; died in the Presbyterian Hospital, Chicago, April 27, from septicemia following an infected wound of the finger.

ARCHIBALD HAAS, Chicago; Bennett Medical College, Chicago, 1882; College of Physicians and Surgeons, Chicago, 1886; aged 70; died, May 22, from the effects of a gunshot wound, self-inflicted, it is believed, with suicidal intent, while despondent on account of ill health.

CHARLES F. LYNCH, Chicago; Bennett Medical College, Chicago, 1913; aged 33; major, M. O. R. C., U. S. Army; formerly district health officer at Aberdeen, S. D.; died in Presbyterian Hospital, Chicago, April 28, from septicemia following an infected wound of the finger.

HENRY MARTYN BANNISTER, Evanston; National Medical College, Washington, D. C., 1871; aged 75; former editor of the *Journal of Nervous and Mental Diseases* and assistant superintendent of the Kankakee State Hospital; an invalid for many years; died at his home, May 1.

CHARLES EDWIN BODDIGER, Chicago; College of Physicians and Surgeons, Chicago, 1893; a Fellow, A. M. A.; aged 52; captain, M. R. C., U. S. Army, and discharged Dec. 14, 1918; who was operated on for glioma of the brain, March 10, died in Wesley Memorial Hospital, Chicago, May 22.

SETH WICKS, Chicago; University of Illinois, Chicago, 1903; aged 40; a Fellow, A. M. A.; captain, M. R. C., U. S. Army, with service at Camp Custer, Mich., and discharged Jan. 29, 1919; instructor in biology in his alma mater; died in Lake View Hospital, Chicago, April 24, after an operation for appendicitis.

JOHN GAILEY CAMPBELL, Chicago; Northwestern University Medical School, Chicago, 1896; a Fellow, A. M. A.; aged 50; instructor in pediatrics and formerly instructor in physical diagnosis and clinical medicine in his alma mater; medical referee of the Mutual Life Insurance Company of New York; died, May 10, from pneumonia.

OMAR ADRIAN KELL, Salem, Ill.; Barnes Medical College, St. Louis, 1900; aged 48; a member of the Illinois State Medical Society; for several years resident neurologist at the Kankakee State Hospital; once mayor of Salem; died in the Missouri Baptist Sanitarium, St. Louis, April 11, from septicemia, due to an infection of the thumb.

FRANCIS ACHILLES DAVIS, Chicago; Northwestern University Medical School, Chicago, 1889; a Fellow, A. M. A.; aged 45; captain, M. R. C., U. S. Army, and discharged Jan. 20, 1919; formerly assistant professor of medicine in his alma mater, and a member of the medical staff of Wesley Memorial Hospital; died, May 3, from uremia and pneumonia.

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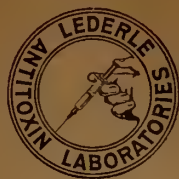
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You are invited to visit our laboratories and talk with the heads of our several departments, who will be more than glad to cooperate with you.

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NATIONAL PATHOLOGICAL LABORATORIES
5 S. Wabash Avenue

Diphtheria

Permanent Immunity

DIPHThERIA TOXIN-ANTITOXIN MIXTURE confers permanent immunity against diphtheria. This immunity is established after 8 to 12 weeks. All children from 6 months to 5 years of age, as well as those adults whose duties constantly bring them in contact with diphtheria, should be immunized if they react positively to the Schick Test. DIPHTHERIA TOXIN-ANTITOXIN MIXTURE offers the medical profession a means of absolutely eliminating diphtheria from every community; a result not heretofore possible.

Susceptibility to diphtheria can be readily determined by the SCHICK TEST. In the face of immediate exposure, individuals found susceptible should be protected with a prophylactic dose of Diphtheria Antitoxin. Such protection lasts from 2 to 4 weeks. If not directly exposed, susceptible individuals should be immunized with Diphtheria Toxin-Antitoxin Mixture.

When used *early* in the disease, DIPHTHERIA ANTITOXIN has reduced the mortality to about 2%. In the days before DIPHTHERIA ANTITOXIN, the mortality was 33%.

Diphtheria Toxin-Antitoxin Mixture

- 1 Complete immunization in 3 vials of 1 c.c. each. \$1.00
- 10 Complete immunizations in 30 vials of 1 c.c. each 7.50
- 10 Complete immunizations in 1 vial of 30 c.c. 6.00

Schick Test

- 10 Tests—Lederle Outfit.....\$1.00
- 100 Tests—Lederle Outfit..... 2.00

Diphtheria Antitoxin

- 1,000 Units (prophylactic dose) in syringe.....\$1.00
- 5,000 Units (therapeutic dose) " " 3.00
- 10,000 Units " " " " 5.00
- 20,000 Units " " " " 9.00

Requests for further information are invited.

Lederle Antitoxin Laboratories
511 Fifth Avenue
New York City

Chicago

Kansas City

Minneapolis

New Orleans

San Francisco

Montreal

Winnipeg

The Dr. Frank Edw. Simpson Radium Institute

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Dr. Frank Edw. Simpson, Director

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We desire to confer and co-operate with surgeons, assuring them adequate amounts of Radium to meet the requirements of patients referred to us.

Your inquiry or requests for specific information
on any point will be welcome



CHICAGO LABORATORY

ANALYTICAL
CLINICAL

25 East
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